

Compilation of Air Toxics Emission
Inventory Questionnaires

Engineering-Science, Inc., Cary, NC

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Example 1 Questionnaires

- o Storage Tanks
- o Dry Cleaning
- o Use of Waste Oils, Recycled Oils and/or Solvents for Fuel
- o Degreasing, Cleaning and Surface Preparation
- o Pesticide Use
- o Surface Coating Operations
- o Toxics in Processing and Manufacturing Operations
- o Processing and Manufacturing Operations Using Volatile Organic Compounds

APPENDIX G (continued)

Example 2

- o Asbestos Products
- o Tape Coating
- o Electroplating
- o Lead Battery Manufacturing
- o Cooling Tower
- o Semiconductor Manufacturing
- o Surface Coating
- o Ethylene Oxide Sterilization

Example 3

- o Boiler Operation
- o Incinerator Operation
- o Asphalt Operation
- o Grain Elevator
- o Grain Mill
- o Petroleum Product Storage Tanks
- o Petroleum Product Transfer Stations

APPENDIX H EXAMPLE PRELIMINARY AND FOLLOW-UP QUESTIONNAIRES H-1

APPENDIX I TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM I-1

EXECUTIVE SUMMARY

Questionnaires have become an important tool in preparing air toxics emission inventories. This compilation process may simply involve the development of a preliminary screening inventory, or may involve the development of a detailed and comprehensive inventory. The main question to be addressed prior to developing a questionnaire is how the data collected will be used.

This report is intended as a resource for agencies interested in developing air toxics emission inventory mail-out questionnaires. The questionnaires presented represent various formats dependent on the planned use of the data and the agency's air toxics program. Readers should not assume that the questionnaires presented are the only appropriate formats for air toxics emission inventory questionnaires, but they may want to select certain features of these questionnaires to help meet particular data gathering needs.

The questionnaire designer must consider a wide range of options that will maximize the efficiency of the questionnaire, the return rate, and the accuracy of the resultant data collected. In order to provide guidance for formulating questionnaires, representative types of questionnaires presently being used by State and local air pollution control agencies are summarized and discussed in this report. It is intended to be used as a guide for agencies that plan to implement or expand their air toxics program and/or air toxics emission inventory. It is not intended to be a stand alone guide to air toxics program development or as a development guide for computerized data handling systems. It should be considered one of several air toxics resources of information that when used together present clearer overall program development considerations.

The introduction relates the need for and use of questionnaires in an air toxics framework, and relates this document to other EPA air toxics guidance. The first chapter discusses the choice of mail-out questionnaires over other information-gathering methods. The second chapter describes differences in the features of various air toxics questionnaires, such as open-ended vs. closed, emissions-based vs. chemical use, permit related, or general vs. industry-specific. The third chapter discusses the individual elements of a mail-out questionnaire: the cover letter; the instructions for the questions; and what should be included in each. Chapter four considers questionnaire design to maximize the return rate and accuracy while maintaining a good working relationship with industry. Follow-up procedures are discussed in Chapter 5. Chapter 6 gives a description of various state agencies and their development of air toxics inventories. Appendices include sample air toxic questionnaires which were gathered and selected from a review of sixteen state and local agencies. The questionnaires represent six different types of questionnaire formats with several combinations of each. In addition, an USEPA SARA 313 Inventory Release Form is included in

Appendix I. The effective date for affected industries to submit the SARA 313 Form to both the USEPA and to their respective states is July 1, 1988. The total plant data available from these forms should provide a rough screening tool for potential air toxics sources.

Although the questionnaires, instructions and cover letter presented in the appendices were compiled from those in actual use by several agencies, the agency identification information has been deleted from them (except in the case of the Appendix I SARA 313 Inventory Release Form), often at the request of the agency involved. Though the source of each is somewhat anonymous, we do wish to acknowledge the work of the following state and local agencies in preparation of the examples.

- State of New Jersey, Department of Environmental Protection
- State of Indiana, State Board of Health
- Minnesota Pollution Control Agency
- State of California Air Resources Board
- State of N.C., Department of Natural Resources and Community Development
- Pennsylvania Bureau of Air Quality Control
- South Carolina Air Quality Management District
- State of Maryland, Department of Health and Mental Hygiene
- Air Pollution Control District, County of San Diego
- Bay Area Air Quality Management District, California
- Allegheny County Health Department
- Lane Regional Air Pollution Authority, Oregon
- Maricopa County Health Department, Arizona
- Kansas City, Wyandotte County Department of Health

CHAPTER 1

INTRODUCTION

This document is designed to provide air toxics questionnaire examples to State and local air pollution agencies that wish to develop or expand their air toxics emission inventories.

This document is not intended to be a comprehensive source of complete air toxics questionnaires covering every inventory situation. Though sample portions of many questionnaires are included in the rather extensive appendices, each agency is urged to design its own questionnaires to meet its particular needs. In some cases a combination of features adopted from several questionnaires may best fit the particular program needs. In some states a general questionnaire is sent first, to be followed by industry-specific questionnaires later. In many states however, resources and manpower may limit the agency to one mailing.

1.1 Background

EPA is strongly emphasizing the development of State and local air toxics inventories and other data collection capabilities as part of its National Air Toxics Strategy. As discussed in Compiling Air Toxics Emission Inventories (EPA-450/4-86-010), air toxics emission inventories can be conducted in one of several ways according to the needs and resources of the agency. If only a few industries are involved, if a small amount of information is needed from each one, or if written verification is not necessary, telephone calls may suffice. Plant visits by agency personnel may be applicable when there are few industries or a small geographical area. However, if there are numerous industries and/or many toxic compounds covered, the mail-out questionnaire is the most practical method of getting the bulk of the information needed for starting or updating the inventory.

Before an agency selects a certain approach, the agency should determine whether it has the manpower and resources to conduct screening studies, to design the questionnaire, print it and mail it, to properly review the returns and follow-up delinquent responses, and finally to compile and analyze the results. No one questionnaire format will be suitable for all of the different agencies' needs. Depending on the particular State's mix of industries, it may be best to use several different questionnaire design approaches to get an exact match with the agency's needs.

Once effective questionnaires are adopted that meet these agencies' needs, it is desirable for them to adopt a policy of minimal change so that respondents can become familiar with the form and make less errors when completing it for future updates.

In all cases, the psychological impact inherent with answering any questionnaire and the ongoing relationship with the recipients must be considered. Future questionnaire responses may be affected by the consideration with which the present survey is conducted. Similarly, past agency experience should be factored into the current design effort.

1.2 Technical Approach

Chapter 2 of this document addresses considerations that must be taken into account when developing questionnaires. These include the uses of the data collected, the importance of screening studies and the various ways to use data already available to the agency for screening purposes, and types of sources to be included in the survey. In addition, a discussion is included concerning required SARA 313 Inventory Release Form information, which in the future will provide new capabilities to States for gathering a variety of general information on over 300 compounds.

Chapter 3 describes the basic elements of an air toxics emission inventory mail-out and discusses what should be included in each, including the cover letter, the general instructions for completing the survey, and specific instructions of importance. Chapter 3 also includes discussions of the various approaches available when designing air toxics questionnaires. These include discussions characterizing the various example questionnaires that can be found in the Appendices (e.g. open-ended vs. closed, emissions based vs. chemical use, permit related, general vs. industry-specific). Advantages and limitations of particular types are discussed.

Chapter 4 addresses several points which should be considered in order to develop a successful questionnaire effort. Return rate and accuracy are emphasized. Such topics are discussed as choosing the right questions, the visual impact of the mail-out package, provisions to assure confidentiality, and the procedures to best assure accurate responses.

Chapter 5 discusses follow-up procedures such as delinquent respondent letters, phone contacts, source inspections, source testing, and review of data by appropriate personnel.

Chapter 6 contains a short summary of some State and local agencies' air toxics programs. Several agencies' development and progress are briefly described in this section to provide historical background of air toxics programs in the country. The summaries are intended to show some of the similarities as well as some of the differences in various air toxics programs' use of emissions data.

The Appendices contain examples of cover letters, instructions, and various State and local air toxics emission inventory questionnaires, a SARA 313 Inventory Release form and a partial list of required SARA 313 compounds.

In all these efforts, the air toxics emission inventory development process can be expected to have some similarities to criteria pollutant emission inventories. That is, the inventories will need consistent updating and refinement as the agency's air toxics program develops and changes. As the air toxics program needs change, the questionnaires may need to be restructured and fine tuned, but a well thought out initial design will help to minimize such potentially confusing changes.

CHAPTER 2

CONSIDERATIONS FOR DEVELOPING QUESTIONNAIRES

Uses for air toxics data are varied. State and local agencies can use air toxics inventories to develop preliminary estimates of emissions for various source categories to help understand broad emission patterns and trends and to identify major pollutants of concern. They may also use their inventories to provide input to various kinds of dispersion models for estimating ambient air concentrations around new and/or existing point sources. A few programs are beginning to go beyond individual point source assessment and are evaluating the impact of all sources (large and small) of particular air toxics in a given area. Table 2-1¹ lists some potential demands that may be placed upon toxics inventories.

Different levels of detail are needed depending on the anticipated uses of the inventory. Table 2-2¹ shows some of the inventory parameters that increase in complexity as the inventory applications become more demanding. Because this is such an important consideration, the agency should determine what uses the air toxics inventory will be put to at the outset of the inventory planning process. The important point is that the inventory agency must be aware of all of the projected uses of the inventory before commencing with data collection. In general, inventory design and data collection needs will be determined by the most demanding applications of the inventory. Available resources and manpower must be considered as well. The following sections discuss the potential uses of screening studies, and methods for collecting data that may already be available in agency files. Advantages and limitations of each source of information are discussed.

The major point to be made is that the agency must take into account what the data will be used for in order to design a questionnaire that will obtain the data most effectively. In order to gain a more comprehensive understanding of the complexities involved in compiling air toxic inventories, this document should be reviewed in conjunction with the EPA document (EPA-450/4-86-010) entitled Compiling Air Toxics Emission Inventories.

2.1 Screening Studies

Prior to developing and mailing a questionnaire package, screening studies can be done. The primary reason an agency may decide to perform a screening study is to develop preliminary estimates of emissions and associated risks before conducting a mail-out to industries. Screening studies can help to define how the air toxics questionnaire should be designed. In other words, the screening study may indicate an air toxics concern in a certain region, or for only certain pollutants and source categories, or may indicate the ability to use permit information that is already available.

TABLE 2-1

POTENTIAL DEMANDS UPON AIR TOXICS EMISSION INVENTORIES

1. Satisfy a legislative or other mandate.
2. Identify sources and general emission concentrations, patterns, and trends.
3. Store data from related programs.
 - e.g. -- permit/registration/compliance data
 - emergency preparedness data
 - right-to-know data
 - act as "tickler file"* for permit review and enforcement actions
4. Site ambient air monitors.
5. Provide input to point source dispersion models to predict ambient air levels.
 - e.g. -- to compare with acceptable ambient air levels (AALs)
 - to determine maximum individual risks and aggregate incidence.
6. Focus subsequent inventory work or other program development efforts.
7. Identify multiple source and multiple pollutant problem areas characterized by high additive risk.
8. Develop control strategies, risk management, and regulations.

Note: This list is not intended to be all inclusive. It reflects uses indicated by various State and local agencies and EPA.

*Note: A tickler file could be a file that prioritizes specific companies based on immediate potential ambient toxic impact in the case of an accidental release of certain chemicals. These companies could be targeted (depending on compliance records) for more frequent or more extensive agency inspections.

TABLE 2-2

INVENTORY COMPLEXITY AS A FUNCTION OF APPLICATION

<u>INVENTORY USE</u>	<u>LEVEL OF COMPLEXITY</u>
LESS DEMANDING APPLICATIONS	SIMPLE DATA SUMMARIES
	AGGREGATED SOURCE DATA
	MAJOR POINT SOURCE EMPHASIS
	MORE SOURCE CONTACTS
	STACK AND EXHAUST DATA
	CONTROL EQUIPMENT TYPE AND EFFICIENCY
	SPATIAL AND TEMPORAL RESOLUTION
	INCLUSION OF MINOR AND AREA SOURCES
	CONTROL STRATEGY SIMULATION CAPABILITY
MORE DEMANDING APPLICATIONS	COMPLEX DATA HANDLING CAPABILITY

(Note: Refer to Table 2-1 for various applications of air toxics emission inventories. In general, the applications in Table 2-1 become more demanding with increasing order of listing.)

By maximizing use of data already available to the agency (i.e. permit file review, sorting by SIC codes, source registration review of upcoming required SARA 313 information etc.) the number and type of questionnaires designed may be minimized. By reducing the request for information a source may already have been required to submit to a State or Federal agency, the source may be more receptive to providing a timely and accurate response to the questionnaire.

Results of the screening study should be made available for review to personnel such as modelers, environmental engineers, chemists, planners, and permit reviewers. They can point out possible inconsistencies, shortcomings of the questionnaire design, or where certain emissions estimates may seem inaccurate. They may also point out where there is a need for a more detailed study of certain sources emissions estimates, source testing, or on-site inspections.

2.2 Sources to Be Included

Developing an air toxics inventory involves a thorough investigation of the local sources of air toxic pollutants. Several methods and available resources that can be used to identify potential air toxic sources are described below, but a combination of research efforts may produce the best results.

2.2.1. Criteria Pollutant Data Base

Agencies may choose to include sources currently listed in the criteria pollutant inventory, though this inventory may not include smaller significant sources, area sources, or fugitive emissions. Agencies should consider certain types of small facilities such as dry-cleaners, service stations, and area emissions from mobile sources for air toxics inventories, because minor point and area sources such as these are significant contributors of solvent losses for a number of air toxic compounds. Non-traditional sources (waste oil combustion, residential wood-heaters, hospital sterilization, etc.) should be included also. The other shortcoming to an exclusive criteria pollutant data base approach is that only point source or stack emissions may be considered. Air toxics inventories may need to include fugitive emissions from certain types of sources for certain compounds. Therefore, referring to criteria pollutant sources can provide a good start in forming an inventory, but additional research should be performed as well, depending on agency resources, and the mix of industries in a particular area.

2.2.2 Prioritized Substances

It may be more cost effective for the agency to prioritize certain sources based on substance toxicity, and substances listed under NESHAPS or NESHAPS candidate substances (EPA Document 340/1-85-U06). In addition, Chapter 5 of Compiling Air Toxics Emissions Inventories details several broad source categories that may account for a rather large fraction of air toxic emissions. This approach may work well for an agency with limited resources that is developing a first inventory. Further, sampling of some area sources and source inspections and/or testing can pinpoint air toxics emission sources for certain localities or geographic areas.

2.2.3 Selected SIC/SCC Codes

Toxic Air Pollutant/Source Crosswalk is a compilation of tables which associate potential air toxic pollutants to sources by Standard Industrial Classification (SIC) codes and by Source Classification Codes (SCC). Although not an exhaustive list of compounds, "Crosswalk" is a valuable resource in deciding which potential sources are to be included in an air toxics inventory questionnaire. The SCC emission factors are available to estimate criteria VOC emissions when recent source test data is not available from a source. This used in conjunction with a VOC profile key along with an apportioning factor can represent specific air toxic compound emission factors for a wide variety of industrial processes. EPA plans to update these data, and further verify, and extend their applicability as more air toxics source test data becomes available.

When emission factors, speciation data, or source assessment data are not available, a conservative or worst case material balance may be used to quantify emissions, at least for screening purposes. Whatever estimating method is used, the method should be recorded so that it may be updated when better information becomes available.

Each of these approaches to quantify air toxics emissions has limitations and certain practical uses. The agency should keep these limitations in mind when designing its own particular air toxics emission inventory questionnaire, and when evaluating the industry responses. These "Crosswalk" tables are available in two forms: in a data management system or in hard copy (EPA Document 450-4-87-023a).

Some State and local agencies have assigned specific air toxics emission factors in their existing criteria pollutant emission inventory data base systems. Other agencies input individual emission factors on a case-by-case basis. Still others have not computerized their inventories, but are planning to do so in the future.

2.2.4 SARA 313 Toxics Release Inventory Reporting Form

Another resource is the SARA 313 Inventory. By July 1, 1988 many facilities will be required to complete SARA 313 Inventory Release Forms. Working from a list of 329 compounds and groups of compounds, extensive sources will be covered. This new resource will help states to identify affected sources, pollutants being emitted, and estimates of total plant emissions, etc. It will not, however, provide individual stack data, the size of sources, or plant layouts. The industry must provide total plant estimates of point-source and non-point source (fugitive) air emissions. This information should be useful as a screening tool to target potential air toxics hot spots, or to help select what air toxics pollutants to include in the inventory, permit program, or source registration process. A copy of the 1987 (Emission Year) form is provided in Appendix I.

2.2.5 Use of Permit Programs For Air Toxics Updates

Many agencies use their established new source review and operating permit renewal programs as a source for inventory update information. Some agencies directly incorporate certain permit conditions, such as allowable emissions, into the emission inventory. A short-term disadvantage of this process is that many States require permit renewals only once every 3 to 5 years, so the inventory could take several years to complete in this manner. Also only a few toxic compounds may presently be regulated such as NESHAPS, and information may be needed on a much broader scale, depending on the intended use of the data. To develop a comprehensive plan for air toxics, the agency will not likely wish to wait 3 to 5 years for an accurate air toxics picture for their State or local area. Even if they use this process, they will need to supplement it with information from other sources such as those covered by NESHAPS and compounds of local concern.

CHAPTER 3

AIR TOXICS EMISSION INVENTORY QUESTIONNAIRE ELEMENTS

An air toxics emission inventory questionnaire mail-out has three basic elements: the cover letter, the questionnaire instructions, and the questionnaire itself. As previously discussed in Chapter 2, the questionnaire format and content depends on the detail of the inventory and the ultimate use of the data. All of these components, when considered together, make up the air toxics questionnaire package.

3.1 Cover Letter

The cover letter is a key to the air toxics emission inventory, because it introduces the purpose of the questionnaire and is the initial contact with the recipient. If the cover letter does not command attention, the attached questionnaire may be discarded or filed away and not considered a top priority. This could make the number of companies requiring recontact by agency personnel increase dramatically.

The cover letter should include:

- o Applicable regulations, if any, that require the recipient to respond and appropriate penalties;
- o Confidentiality provisions, if applicable;
- o The purpose of the questionnaire;
- o A respectful request for cooperation in filling out the questionnaire;
- o Due date for the return of completed questionnaires;
- o An agency person who can be contacted for questions.
- o Rationale for asking what may appear to the source to be redundant information.

The cover letter should be as short and direct as possible. Some example air toxics cover letters are included in Appendix A. The most successful return rates for questionnaires have been the ones having the strongest legal statements. Therefore states requiring air toxics source registration to obtain construction or operating permits may obtain better source cooperation. If no specific air toxics regulations have been adopted yet, then regulations pertaining to particulates or volatile

organic compounds can be substituted. Or, the State or local agency can require sources emitting certain substances to fill out registration information in order to obtain operating permit renewals or construction permits. The State or local agency may have a General Statute that grants them the legal right to ask for information from any source under their jurisdiction.

The final due date for returning the questionnaire may be specified either by a certain date or as a period of time after receipt of the questionnaire. The agency should record each due date so it will be clear when follow-up letters or phone calls may need to begin for tardy respondents.

3.2 Questionnaire Instructions

General information that affects the whole questionnaire may be included first on the instruction page. For example, if the questionnaire is "open-ended" (i.e., asks the recipient to list every toxic compound from every emission source), it should be clear that the respondent should use chemical compound names or preferably CAS numbers and not just industrial trade names. Also, it may be helpful to point out that not all questions, sections, or pages may apply to every industry, as in a source category specific directed questionnaire. If the question pages are designed for direct coding to computer input, the general instructions should explain how to enter numbers properly. In addition to explaining how to complete the questionnaire, the general instructions should indicate the specific year, or other appropriate period of time, for which all data are required.

Some agencies have utilized production/use questionnaires which basically just ask sources to identify whether each substance is purchased, used, or produced, followed by a more detailed questionnaire to specific targeted industries. Some agencies include minimum usage or emissions levels specified on an attached list as part of the instructions. Examples of air toxic questionnaire instructions are included in Appendix B.

3.3 Questionnaire Design

There are several ways to design a questionnaire. Of utmost importance when designing a questionnaire is that the format suits the needs of the agency and attains correct responses and maintains a good agency-industry working relationship.

Several approaches can be taken in designing the questionnaire which, in turn, will effect the format of the questionnaire. The approaches that can be used include: open vs. closed-ended, emissions-based vs. chemical use, permit related, and general vs. industry-specific. In order for an agency to decide which approach to use it needs to be familiar with some of the impacts of each approach.

Examples of questionnaires designed for different approaches are included in Appendices C-H. These examples were taken from agencies that have used them already in developing air toxics inventories. These sample cover letters, instructions and questionnaires are examples only and are purely to provide guidance. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor their inventory package according to their agency's individual needs. Many times, the examples are a combination of approaches. For instance, in one case a general design questionnaire was sent to various manufacturers and process industries, and later, industry specific questionnaires were sent to a small subset of the original recipients. In still another case a screening study was first done to narrow down the number of sources to be inventoried and indicated the design needs of the final questionnaire to be sent out; later, a second questionnaire was sent.

The following sections explain the advantages and disadvantages of various type questionnaire designs. These are not necessarily mutually exclusive.

3.3.1 Open-Ended Approach

The open-ended approach does not target specific source types or a limited group of compounds. The open-ended approach asks the respondent to list any compound that they emit. It does not provide a checklist of compounds. Therefore, with an open-ended approach a much larger number of contacts will be necessary. This approach has several similarities to a screening study:

- o less time and effort in questionnaire design;
- o responses may be less detailed;
- o more responses may be inaccurate or trade names may be listed;
- o some sources may report no air toxic emissions.

(No agencies reviewed by this effort use this approach).

3.3.2 Closed-Ended Approach

The closed-ended approach (see Appendix C) is a more directed approach, which usually provides a limited list of compounds with the questionnaire. Some agencies' lists of compounds are becoming rather extensive and use of CAS numbers are widespread. This approach requires more design time up front (e.g. screening studies, modeling analyses). However, the benefits are that the resulting number of sources contacted can be greatly reduced and the quality and detail of the data received are usually better. As the lists grow, computerized data handling becomes a necessity.

3.3.3 Emissions-Based Approach

Emissions-based questionnaires request information often included as annual volatile organic compound (VOC) or particulate matter emissions.

The agency may request permitted or potential emissions per source and/or actual emissions, average emissions, or emissions per day. They may also specify emissions per hour (or time interval) for specific compounds. In many cases some of this information can be collected for the majority of sources from the established criteria emission inventory records. The agency may also ask for emergency episode emissions, fugitive emissions and information from excluded criteria emission inventory sources. Unless source test data are available, it may be better to get VOC and PM emissions from the source and have the agency personnel apply apportioned emission factors from references they select to insure consistency or to be used to cross-check emission rates supplied by the source.

3.3.4 Chemical Use Approach

Chemical use questionnaires are directed toward lists of specific compounds and ask for process input information and Material Safety Data Sheets (MSDS). The Material Safety Data Sheets include the needed species composition data and should be requested where available, for any approach used. The agency can require the source to contact the suppliers of chemicals they use, if MSDS are not available. The agency can use these data if information is also provided on daily use, process operating parameters and efficiency of the control equipment to make emissions estimates. Emissions-based and chemical use questionnaire examples may be found in Appendix D.

3.3.5 General Approach

Examples of the general approach to air toxics questionnaire design are illustrated in Appendix F. This type questionnaire may be used as input to simple screening models to determine if a particular source is a potential problem and if further, more detailed source, emissions, and modeling data are required. A list of chemicals is provided and the source must access if it emits any of the listed compounds. These questionnaires may list minimum levels for each compound addressed. Such questionnaires may also be used in conjunction with several source specific questionnaires. The general questionnaire may also be sent to a variety of manufacturing or industrial process facilities not covered by the source specific questionnaires.

3.3.6 Industry-Specific Approach

Included in Appendix G are examples of several industry-specific questionnaires. These are very detailed questionnaires that may include emissions information from process vents, fugitive equipment leaks, equipment openings, raw material/product storage and handling, secondary waste treatment, and liquid spills. Questionnaires of this type are usually focused on a handful of very large, singularly important point sources. A great deal of pre-screening effort would be required for industry-specific questionnaires, and a great deal of effort would also

be required of the recipient in filling out the questionnaire. More effort would be required per source for the agency to properly interpret the response. However, this level of detail is probably the next best thing to actual source testing in estimating emissions. This technique may also prove useful in targeting particular sources the agency determines may or may not need costly source tests.

3.3.7 Tiered Approach

Appendix H illustrates the tiered approach or staggered mail-out approach to emission inventory source data collection. In this case a cover letter and screening study type questionnaire are used, followed later by more detailed questionnaires sent to a select number or type of sources. A phone survey may be conducted by the agency prior to the screening study to narrow the number of facilities to send the screening study questionnaire or the detailed questionnaire. Whether the phone survey is conducted before or after the screening study questionnaire is sent depends on the number and type of facilities in the inventory area. A good example would be dry cleaning establishments. The state manufacturing guide may list 100 dry cleaners in a certain city. However, after a phone survey, the agency found that 75 percent of these locations are only drop-off and pickup service centers. By conducting the phone screening, it was obvious that no questionnaires were necessary for those service centers. A more detailed questionnaire was then sent to the remaining 25 drycleaners. This benefitted both the agency by not having to review unnecessary forms, and the excluded service centers by not wasting their time completing unnecessary forms. Phone screening may not always be an efficient use of agency time, depending on the individual agency needs or types of industries included.

Another approach is to first send an open-ended questionnaire or general questionnaire, followed by later designed industry specific (by source type) questionnaire, followed-up by phone calls to clarify data and/or source tests or inspections.

CHAPTER 4

OTHER CONSIDERATIONS

Other considerations when developing an air toxics questionnaire are more related to strategy for maximizing accuracy and minimizing cost and time involved to conduct an inventory. These include discussions of the importance of asking the right questions, maximizing return rates, providing for facility confidentiality of trade secrets, outlining what questions are applicable for particular source categories, designing question/answer style and format to decrease confusion or misinterpretation, providing written instructions for answers (especially units of measurement) with computer coding format instructions if necessary, and developing a data quality assurance procedure. Some of these considerations are clearly technical in nature, but they need to be incorporated with administrative and procedural considerations for the whole effort to be the most efficient.

4.1 The Right Questions

A successful air toxics questionnaire obtains the right answers to the right questions for the particular agency while maintaining a good working relationship with the recipients. Duplication of information already available through permit files may not be needed if the number of sources included in the survey is few and the information is easily extracted from other sources. However, for large survey efforts, it may be too time consuming for agency personnel to extract needed available information and thus, some duplication of effort on the part of the sources cannot be avoided. If the sources being sent questionnaires are the same as included in the criteria pollutant inventory, all information which the agency already has about the recipient's facility, such as mailing address, SIC number, UTM coordinates, emission point numbers, etc., should be preprinted on the questionnaire. The agency could use a window envelope to expose the facility name and address and avoid making additional mailing labels.

The most profound difference between air toxics and criteria pollutant inventories is in the sheer numbers of substances included. Since there are literally hundreds of potentially toxic substances as compared to only a handful of criteria pollutants, asking the right question in all cases can become formidable. Also, data handling and data collection needs increase as more substances are inventoried. In addition, if the emission estimates are to be used as inputs to models, then the data must be collected spatially and resolved to grid cells depending on which models will eventually be used, therefore the "right" questions to ask may vary. In general the complexity of the questions will be determined by the most demanding application to which the inventory will be applied.

4.2 The Return Rate

The return rate of a questionnaire depends on several factors. The first impression of the recipient, the simplicity of the questionnaire, and conveying the importance of returning the questionnaire are all important factors affecting the return rate.

4.2.1. Minimize Questionnaire Length

The recipient's first impression will be based on the size of the questionnaire. It should be as brief as possible. Unfortunately it may be impossible for the forms and accompanying instructions for a large listing of toxic compounds or source categories to be brief. So, the next best approach may be to design the forms in such a way to make the pages as uncluttered and readable as possible leaving ample room for answers.

4.2.2. Maximizing Return Rates

In addition, several items should be included in the cover letter to insure a high return rate:

- o A statement about any laws which require a recipient to respond;
- o Provisions and procedures for confidentiality;
- o A due date;
- o A contact name and telephone number to call for questions;
- o An addressed return envelope.

A strong statement about existing and applicable regulations which require a recipient to respond to the questionnaire is the agency's most powerful tool for maximizing the return rate. The statement should be placed prominently in the beginning or at the top of the cover letter. It should cite any applicable regulations or proposed regulations and specify penalties for noncompliance.

Another important item to include in a cover letter to ensure a high return rate is the due date. The final due date should be included in the cover letter so that it will not be overlooked by those who do not read instructions. The due date may be specified either as a stated date or as a period of time after the recipient receives the questionnaire. The first approach is more specific, and gives the recipient a definite deadline. With the latter approach however, the questionnaire mailing can be staggered without having to reprint the due dates listed on the cover letter.

Staggered mailing is particularly important for very large inventories, because 1000 or more questionnaires returned simultaneously may be too difficult to process at one time. Staggered return uses the agency's limited manpower and resources more economically. Questionnaires can easily become lost or damaged if they are not processed expediently by the agency, and this may be less likely to occur if the staggered mailing approach is used.

Each respondent should have an equal amount of time to respond to questionnaires when using the same format and approach especially if there is a penalty for late responses. But this must depend on equal complexity of the information required by questionnaires. Obviously,

more time will be needed for a large source to complete a source specific questionnaire than a simple screening survey or a general information questionnaire with, for example 20 compounds versus 200 compounds. Therefore, the time period allowed for completion of air toxics emission inventories require more planning than criteria pollutant inventories. The time period should be long enough so that the respondent is not overly rushed and short enough that the respondent does not procrastinate in responding.

Another good approach for a large inventory is to classify the mailings according to priority chemicals, type sources, size of sources, county locations, or simply a source name (alphabetical) staggered approach. In this way all of the questionnaires will not be returned at the same time. Each questionnaire should be reviewed as soon as possible after it is received. When this approach is used for a selected small number of sources at the beginning of the update, the agency can predict the manpower and resources it will take to complete the full-blown inventory effort. They may find they do not in fact have the manpower to conduct the type inventory they want. They can instead rethink and replan their approach or request additional manpower to complete the inventory.

4.3 Confidentiality

Confidentiality can be established in one of several ways. The simplest is a box to be checked to request confidentiality for all information other than emissions data given in the questionnaire. Justification for the request would be given by the recipient on a separate sheet. In this way each piece of confidential information can be keyed as such.

Another approach would be for the industry to submit one full questionnaire and one "sanitized" questionnaire that would be available for public review.

The main advantage to this approach is that it clearly indicates the request to the agency. It also alerts the agency to look for supplementary supporting information. If the questionnaire is converted to computer input, a check in the confidentiality box can be programmed as a command to store all information in a limited access data file.

The disadvantages of this approach are that it does not provide confidentiality for only specific pieces of information and that it may be too easy to use. It should be used only for recipients who are anticipated to be deeply concerned about confidentiality. This judgment is best handled by the appropriate agency officials. A better method may be to require the industry to highlight each and every answer it deems confidential.

A more complex method for establishing confidentiality involves the assignment of a survey number to each questionnaire; this number would also be printed on the general information page. The agency director would detach the general information page from the returned questionnaire and store it in a locked file. Since all identification is presented on the general information page, no one would be able to associate the information on the question pages with a specific facility. If necessary, a facility could be identified by locating the survey number in the locked

file of general information pages. This consideration is especially important if the agency subcontracts to a private company for the interpretation and transcription of the information. If the information is computerized, the identification information could be entered into a separate limited access file.

Each agency should be versed in their local laws to ascertain that the concealment of identification is not forbidden (the public access to records varies among states).

A system which allows for partial confidentiality could be established in the cover letter using a paragraph similar to the following:

"Any proprietary information, which you believe is of a confidential nature, should be identified in a supplementary letter with applicable data in the questionnaire marked with the word CONFIDENTIAL. A brief explanation in your letter for the desired confidentiality should be included".

This system indicates clearly to the agency which information is confidential and which is not. It also alerts the agency to look for supplementary supporting information with each returned questionnaire that is marked anywhere with the word "CONFIDENTIAL." However unless the marking is very clear, this system can become tedious and inefficient.

4.4 Applicability and Clarity of Questions

Several factors in the design of the question section can determine the efficiency of the mailing and affect the return rate as well. First, there should be a clear statement from which the respondent can determine whether the questionnaire is applicable to his facility. Second, the questions should be well-arranged and easy to answer.

A clear statement of applicability serves several purposes. If the questionnaire is applicable, the statement reinforces the necessity of compliance. If the questionnaire is not applicable and recipient can easily determine it as such, he may be more cooperative in the future when the questionnaire does apply to him. A maximum return rate for non-applicable respondents is important because the agency will not have to waste time and money for follow-up and know up front which facilities are not being inventoried.

The use of a check box for applicability will help the agency distinguish between questionnaires that are not applicable and the ones that are returned without any response. Examples of statements of applicability are provided below.

- o If this equipment was used at least five (5) days last year, check this box and complete the questionnaire.
- o If this equipment was not used at least five (5) days last year, check this box and return this form.
- o If this equipment has been removed, check this box and return this form.

- o If the compound use on the attached table is less than the minimum level listed, check this box and return this form.

Statements of non-applicability at the beginning of each page or section can be used as an alternative or supplement to a general statement of applicability. Colored pages may be used to designate different sections of the questionnaire. By supplying a check box, the agency can discriminate between pages which were forgotten and which were not applicable.

4.5 Complexity and Questionnaire Format

As mentioned earlier, the questions must be well-arranged and easy to answer. Brevity enhances the rate of return. The agency can usually reduce the bulk of the question section by designing industry-specific questionnaires instead of general questionnaires. Industry-specific questionnaires are designed specifically for one particular industry, as opposed to general questionnaires applicable to a whole group of industries. For example, it may be better to send an industry-specific questionnaire to a dry cleaning establishment and a multipage, general questionnaire to an organic solvent user.

The consideration of questionnaire format, however, must be balanced against the level of resources available to the agency conducting the inventory. It takes more money and manpower to design, mail out, and interpret industry-specific questionnaires than it does general questionnaires. Processing of industry-specific questionnaires is also more complex because the format of each questionnaire will vary. Furthermore, it is possible to send an inappropriate industry-specific questionnaire to a facility. On the other hand, general questionnaires may be preferable if the agency's resources are limited or if the agency is unfamiliar with many of the sources. Inventories for specific pollutants may be most advantageously conducted with general questionnaires. Furthermore, general questionnaires may be more appropriate for large or complex facilities that are difficult to characterize. Most of these facilities will have engineers available to translate their process and emission information onto the forms.

If a general questionnaire must be used, it is important to provide a statement of applicability for each page. In addition, questionnaires that are organized so that all information about each emission point can be provided on one page are usually easier to fill out than questionnaires that have separate pages for process, emissions, control equipment, and stack information (subject-by-subject). For this reason, source-by-source questionnaires are usually considered the better format. However if the questions are arranged by subject, industry-specific questionnaires can be designed by simply selecting the subject pages that apply to each industry. Then only a few supplementary pages of questions that are unique to an industry must then be formulated.

Another method that can minimize the level of effort required from the recipient, and therefore enhance the return rate, concerns the format of the questions. Multiple choice questions are the easiest type for recipients to answer. Many questions can easily be formatted as multiple choice. For example, a question that asks the recipient to describe or

name the type of control device used can be improved by supplying a list of conceivable control devices and asking the recipient to put a check next to the appropriate answer. When needed, multiple choice questions can include the choice "other" with a blank beside it for entering out-of-the-ordinary controls. Other questions, such as those that require exact numerical answers, can only be answered appropriately with a written response. If there are repetitive questions, the recipient could be asked to make a copy of a questionnaire for each point source or substance being inventoried.

4.6 Clarity of Instructions

To be considered accurate, questionnaire responses must provide both the descriptive information desired and the correct numerical data. Every effort must be made not to confuse the recipient. Therefore it is important to provide clear, complete instructions to decrease the chances of error in the responses. Instructions should be as concise as necessary. Units of measurement, method of calculations and conversions, and code number instructions should be put on the questionnaire itself and not explained in the instructions. This enables the recipient to read through instructions expediently without becoming caught up in too much detail.

In conclusion, general instructions should be as precise as possible. Some of the most effective air toxics questionnaire instructions are those which explain in detail how to answer each question. If a particular question requires special clarification, it is best to note special instructions on the same page as the question rather than print them on a separate instruction page.

The following types of information should be included when asking detailed questions:

- o Specific Responses -- printing the type of units wanted for an answer right next to the answer space. Using the multiple choice format as discussed earlier;
- o Samples -- providing completed samples with the instructions for process flow, schematic and plant layout diagrams. Sample diagrams help the recipient to visualize what is expected; they are easiest to interpret if they are adjacent to the instructions;
- o Standardized Forms -- providing standardized forms when periodic inventory updates are performed. Regular recipients will eventually learn how to provide the correct responses. This is one condition under which a single generalized form for all facilities is efficient;
- o Emissions Estimates -- instructions for the inclusion of test methods used. Examples of test methods include: material balance, emission factors, test results, and engineering judgments, apportioning should be specified.

4.7 Final Considerations

After a questionnaire is designed it is good quality-assurance procedure to check its effectiveness. This can be accomplished using a limited pilot mailing followed by site visits. This procedure provides a check on the effectiveness of the particular questionnaire package and their applicability to different sources. A final possibility that may improve industry-agency relations would be to include a few questions at the end of the questionnaire or on a separate page for industry suggestions for future questionnaires or questions such as the following:

- Were the questions clear?
- Approximately how long did it take to complete the form?
- Were the questions applicable to your company?
- If you called for agency clarification, did we adequately respond?
- Was the time allowed after receiving the questionnaire adequate? If not, why?
- Please provide additional comments, if any.

This type of addition may indicate to the recipients a true concern to minimize industry paperwork, or at least the desire to work with industry to improve future questionnaires.

CHAPTER 5

FOLLOW-UP PROCEDURES

Follow-up can be as important or more important than the planning and effort expended in questionnaire design. The accuracy and completeness of responses must be checked and tabulated, or entered into a computer. Depending on how thorough the questionnaire instructions were explained with the mail-out, and whether deadlines were identified in the cover letter, a second major effort may be required to contact recipients who are delinquent in responding or to clarify items such as emissions units or estimates of control efficiencies. Some second effort can be expected, either for clarification of answers or for non-response. The following sections discuss the importance of such follow-up procedures such as data quality checks, the use of on-site inspections, and recontacting sources. Questionnaire revisions are also discussed.

5.1 Quality Control of Data

All the questionnaires should be checked by engineers, chemists, or experienced environmental scientists to determine if the data provided are reasonable. It is helpful to ask for process flow and plant layout diagrams to aid in the interpretation of data. In addition, the best quality check would be performed by engineers or scientists who have worked in or are familiar with the industry. Finally, for similar processes and chemicals, total emissions can be compared against each other or checked against appropriate emission factors to determine reasonableness. The extent that detailed checks can be done depends on the resources available to the agency, the number of sources included in the inventory, and the use of the data. It is suggested to recontact a higher percentage of respondents that considered their usage lower than a specified yearly amount, or as having no toxic emissions when their SIC code would suggest otherwise. Perhaps they only misunderstood the way the instructions were worded, or know their chemicals by a trade name instead of chemical composition. In any event, a follow-up call may increase the accuracy of the inventory.

5.2 On-Site Inspections

For certain sources, it may be appropriate to consider plant visits if more specific information needs to be obtained for a particular program purpose, although this approach can become resource intensive and time consuming. Another approach is to do a preliminary screening and visit a very small percentage of facilities as part of a data quality control procedure. Also, it may be wise to visit a representative sample of respondents that checked the not applicable box, especially if the agency determines from cross referencing SIC code references such as "Crosswalk", that the source has a potential to emit air toxic compounds.

Another less resource intensive approach may be to inspect the facility to check air toxics emission responses during the next regularly scheduled air compliance inspection. Most agencies periodically inspect major facilities within their jurisdiction. The problems that can be encountered using this approach is that air inspectors may need additional training before such air toxics inspections, as most regular air inspections may have involved criteria pollutants or at the most NESHAPS pollutants.

5.3 Recontacting Sources

The return rate for the air toxics questionnaires can be increased by recontacting recipients that are delinquent in responding either by letter or by phone. This recontact reminds them that they will not be forgotten and may be subject to a fine, and that a response is important. For other companies that may be confused by some of the questions, recontact provides them with a less embarrassing way to ask questions. This interaction is the most effective while the questionnaire is being initially completed, rather than having to return questionnaires to the industries for corrections. Using a pilot mailing will help get an idea of the average time recipients take to respond and how many recipients will need to be recontacted. In addition a pilot mailing can provide an overview of the effectiveness of the questionnaire before the final mailing is done. Unnecessary recontacts should be minimized to avoid the possibility of some firms becoming uncooperative. Inventory efforts, after all, are not a one-time need. Yearly updates may be necessary.

5.4 Revising the Questionnaire

The process of revising the questionnaire should be an evolving process. With each mail-out or updating of the inventory, the questionnaire or instructions for completing the questionnaire can be fine tuned or re-directed to meet the developing air toxics program needs. But, as mentioned before, industry will become familiar with questionnaire format that is not changed drastically from mailing to mailing. So, a carefully considered initial design is the best approach, and will reduce time needed for follow-up.

Some changes can be expected, such as:

- o Promulgation of new air toxics regulations, stricter source registration requirements, or changes in reporting requirements;
- o More EPA approved emission factors or more available stack test data;
- o Increases in the number and types of compounds included;
- o Changes in format of questions when agency installs or changes its data handling system;
- o Changes in air toxics control technology and/or control equipment efficiency.

Other changes may be made because of the widespread occurrence of wrong responses to a particular question. Still another kind of revision, but one that has as much impact, are changes in various aspects of the inventory process, such as:

- o Addition or deletion of the use of screening questionnaires;
- o Changes in the cover letter, instructions or confidentiality provisions;
- o Changes in the type questionnaire, such as a change from open-ended to industry - specific questionnaires;
- o Changes in the ways that the agency intends to use the data;
- o Changes in agency budgets and/or resources and manpower available for inventory efforts.

Perhaps the best way to proceed is not to plan in terms of needed air toxics emission inventory questionnaire revisions, but to continually focus on needed improvements, whatever the reasons turn out to be.

CHAPTER 6

VARIOUS STATE PROGRAMS

Several states have already begun to develop air toxics inventories. Following are various descriptions of nine state or local programs. The intent is not to suggest that these are the only existing air toxics programs or that their approach is necessarily the best or only recommended approaches. Discussed below are certain programs development, uses of air toxics data gathered, uses of screening studies, numbers of chemical compounds considered, and use of prioritized chemical and source lists. The similarities and the differences mentioned are meant to highlight the individual nature of designing State or local agencies' air toxics emission inventory questionnaires.

6.1 California

The California Air Resources Board (CARB) works with the State Department of Health Services to identify substances as air toxics through an elaborate health impact assessment. When there is scientific uncertainty in the health effects data for a substance, the data are submitted to a Science Advisory Committee for review and evaluation to help determine whether and substance should be listed as a toxic. Substances included in the initial evaluations were selected through a review of other available lists, such as the EPA list of 37 chemicals given priority for NESHAP study and lists developed by other State agencies. Pollutants have been prioritized for the toxicity assessment based on the availability and quality of toxic information on the pollutants. Once a substance is identified as an air toxic, the regional agencies (Air Quality Management Districts) are then responsible for inventorying emissions of the substance.

The South Coast Air Quality Management District (SCAQMD) identified 30 compounds in their 1987 inventory. A closed type questionnaire including a list of 22 compounds was initially used to gather emissions information which was later updated and used in risk assessment and modeling. These compounds are currently being evaluated by the State Department of Health Services to determine threshold limits.

The Bay Area Air Quality Management District (BAAQMD) is in the process of preparing an inventory of every permitted source in the Bay Area. This includes approximately 20,000 sources. Working from a list of 50 substances, sources were first screened. Emitters and nonemitters were identified and emitters were issued a second questionnaire to quantify usage of any of the 50 substances. In addition, sources which are still questionable as to being emitters are under further research. The completed inventory is expected to have emission estimates for all known sources. These will then be used for modeling and prioritized to aid and accelerate regulatory processes for high priority substances and sources.

6.2 Maryland

Maryland started a state-wide Toxic Substance Registry in 1983 which contains throughput emission information. In 1985 the information in the Registry was updated and compiled in an on-line computerized data base. Maryland includes 275 chemicals in their registry. The information is being reviewed by the Air Management Administration to draft air toxic regulations.

6.3 Minnesota

Minnesota has inventoried 42 substances and uses the inventory to identify what toxics are emitted in the state. The inventory was also used to prioritize the sources according to the magnitude of toxic emissions.

6.4 New York

In New York, the State Bureau of Air Pollution Control has developed an inventory of 3,000 substances for every source that emits an air pollutant. Each substance identified by an applicant is included in the New York toxic emission inventory. Data are collected annually through the State's permitting process which requires all point sources to apply annually for renewal of their operating permit.

6.5 North Carolina

North Carolina's Air Toxic program sent out 3,000 questionnaires in 1986 to major and minor facilities emitting air pollutants. The questionnaires are being used to determine the usage of 128 toxic compounds. A closed type survey with minimum limits for each substance was formulated to serve as screening for trace emitters. Companies which produced emissions over the trace amount given for that compound were asked to estimate emissions. Telephone calls were made to expedite the return of all the outstanding questionnaires which were sent out. Draft regulations called Acceptable Ambient Level or AAL regulations are nearing the final stages for approval (expected to be in the Spring of 1988). In the future, additional plant specifications and information will provide the agency with necessary input for models to determine compliance with the AAL regulations. A series of modeling procedures will be performed and the AAL will be the basis for deciding whether sources will need to better control their emissions.

6.6 Pennsylvania

The Pennsylvania Bureau of Air Control has begun an air toxics emission inventory for 38 substances. As a first step, a screening survey was used to help the State focus their inventory efforts. The screening survey was designed to collect basic, mainly nonquantitative data on the type of substance used, stored and/or emitted. Completed questionnaires were returned by about 90 percent of the 700 facilities to which questionnaires were sent. This original list of facilities was streamlined to include 300-400 companies. These companies were sent follow-up surveys requesting quantitative emissions data. The information was compiled and put into a databank. In the future the information will be prioritized and used for modeling purposes.

6.7 Rhode Island

Rhode Island started developing an Air Toxics program in 1984. Approximately 500 potential sources were polled using a closed type questionnaire including a list of 125 chemicals. The questionnaire was developed using ideas obtained from other States' surveys. The Rhode Island survey was designed to be as simple as possible to fill out. The substances were selected from other State lists and carcinogenic chemical lists. The Northeast States for Coordinated Air Use Management Council (NESCUM) assisted the Agency in developing the list, which emphasized fairly widespread industrial substance usage in the state of Rhode Island as criteria for listing compounds. The inventory has been used to help draft regulations. Air toxics regulations for forty chemicals used in the state are being submitted for regulatory approval and promulgation.

REFERENCES

1. Compiling Air Toxics Emission Inventories. EPA-450/4-86-010. U.S. Environmental Protection Agency, Research Triangle Park, NC July 1986.
2. Development of Questionnaires For Various Emission Inventory Uses. EPA-450/3-78-122. U.S. Environmental Protection Agency, Research Triangle Park, NC June 1979.
3. Methods For Pollutant Selection And Prioritization, EPA-450/5-86-010, U.S. Environmental Protection Agency, Research Triangle Park, NC July 1986.

APPENDICES

Appendices A through I contain samples of several agencies' air toxics emission inventory questionnaire cover letters, written instructions, various style main questionnaires, and preliminary screening or follow-up questionnaires. It is hoped that by providing a variety of currently used formats, each agency may better design a complete inventory package to suit specific needs and help in the development of each changing air toxics program.

APPENDIX A
EXAMPLE COVER LETTERS

Statement

The following sample cover letters are examples only and are purely a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent a perfect example. Each agency should tailor cover letters according to the specific needs of the area.

Gentlemen:

The Air Pollution Control Division (APCD) of the Board of Health seeks to protect your health from harmful substances emitted into the atmosphere. Because of the growing concern over the potential health effects of toxic compounds, particularly those related to cancer, this agency is conducting a survey to help determine if a condition of air pollution exists.

In order to help us estimate the potential for cancer risk in your area, please complete the enclosed form and return it to the APCD within TEN DAYS. For each compound used* state the quantity and the emissions. Confidential data will be handled in accordance with established legal procedures. If you think other chemicals on your plant property may be a potential health risk, please list them along with the data at the bottom of the form. If you do not use* any of these compounds, please so indicate on the form, then sign, date, and return it to the APCD. It is important that you return the questionnaire even if no compounds are used. This will aid our planning and remove your company from our list of potential sources.

Code 13-1-1-4(B)(3) permits the State to request this type of information. If you have any questions or problems in completing the questionnaire, please contact the inspector at either the address or telephone number below. Your cooperation is appreciated.

Return Questionnaire to:

Very truly yours,

*Stored, transported, transshipped, generated as a product or by-product, consumed in production, lost to the atmosphere or waste stream, reclaimed, repackaged, or otherwise handled in some fashion.

!COMPANY!
!ADDRESS!
!CITY!
!STATE! !ZIP!

Dear Sirs:

As you probably know, the U.S. Environmental Protection Agency (EPA) has just officially released a list of four hundred plus chemicals that EPA has identified as being acutely toxic when released into the air.

Public concern over air toxics is very great, particularly in light of the chemical catastrophe in Bhopal, India. Now that the EPA has released a first official list of acutely toxic chemicals, communities must conduct comprehensive surveys to identify anyone who produces, processes, transports or otherwise ever handles any of these acutely toxic chemicals.

The County Health Department (acting in cooperation with the City, Fire Department, City, Emergency Preparedness, the Department of Health an Environment and other agencies) is sending out the attached screening questionnaire to gather preliminary information. The questions asked generally follow chemical emergency preparedness official guidance recommendations of the U.S. EPA. The responses provided to this survey will be shared with other involved agencies.

The questionnaire lists each of the EPA identified acutely toxic chemicals and asks you to mark a "yes" or "no" indicating whether your company ever uses, stores, produces, processes, generates, transports, or in any way handles each of these chemicals. Please checkmark a "yes" or a "no" for each chemical listed.

For each chemical that a "yes" was checked, additional questions are asked. Because of varying space requirements for responses, these questions can best be answered on blank sheets of paper rather than on the questionnaire itself.



However, please be very careful to put the question number with your response. Also please indicate your company name on each attached page. If you need any assistance in filling out the questionnaire, please telephone and ask for or

We are requesting that this questionnaire be completed and returned to us by Thank you for your cooperation in this matter. If you have any questions, please call.

Sincerely,

Please Return Survey Response to:

APPENDIX B

EXAMPLE INSTRUCTION SHEETS

Statement

The following sample instruction sheets are examples only and are purely to provide a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor instructions to the specific questionnaire used.

INSTRUCTIONS FOR COMPLETING CHEMICAL INVENTORY REPORT

I. GENERAL INSTRUCTIONS FOR COMPLETING PARTS I, II AND III

- A. The information to be reported pertains only to the chemicals listed in Table I (attached). If your plant does not use, produce, or handle any of the chemicals, either as a pure substance or as part of a mixture or does so in quantities identified as exempt in Appendix A, only Part I need be completed. The term "handle" includes the generation or handling of the chemical as a waste or as part of a waste.

Part III of the questionnaire is to be completed if the chemical is stored in a tank. If the chemical is part of a waste, the tank questionnaire is to be completed only if the waste is stored in a tank on site.

- B. You will receive a separate survey package for each plant location on file with the State. Please file a separate complete report for each location. A complete report for each location means a separate chemical questionnaire completed for each chemical and a separate questionnaire for each tank.
- C. The completed forms are to be returned to:

If you use a messenger service, deliver the forms in person or require additional forms, contact:

- D. All information is to be based on the latest calendar year for which complete data are available.
- E. Complete all sections of the report that pertain to your firm or plant site. If a section does not apply to your operations, write "NA" for "not applicable."
- F. Attach process descriptions, explanatory notes, flow charts, lists, etc., that will assist in clarifying entries made on the report if the answers require further explanation. Supply page numbers for this material. If information needed to complete a section is not readily available, provide a written explanation describing the nature of the operations involved and the reasons for not supplying the data.

- G. Use existing or readily ascertainable data to complete the Chemical Questionnaire. Where quantities can be determined from existing records (e.g., inventory or production figures) or the cost of testing is nominal, actual figures are to be supplied. Otherwise, use engineering estimates and computation; process material balance studies; field tests or measurements made by the plant, equipment manufacturers or government agencies, or other technically sound bases.
- H. If you do not know the formulation of trade name products used in plant operations, make reasonable inquiries of suppliers or manufacturers to ascertain whether the material contains any of the selected chemicals. (For example, Tri-Clene, a solvent, is a trade name for trichloroethylene, a listed chemical.)
- I. List all quantities of chemicals unless the quantity is less than the minimum established in Appendix A.

II. SPECIFIC INSTRUCTIONS FOR COMPLETING PART II

Question 1 - Indicate the name of the chemical and its CAS number. The CAS number is found in Table I.

Question 2 - Describe how the chemical is used, produced or handled. Use of the chemical refers to its use as a pure component or as a part of another material. If the chemical is used for more than one purpose or exists in more than one form, provide all pertinent information relating to the chemical.

Example: Trichloroethane may be used as a solvent in a production process and may also be used as a metal degreaser in some other part of the operation.

Question 3 - This part is to be completed only if the chemical is brought on site. If the chemical is used as a raw material or is otherwise brought on to the site as a pure component or a mixture, so indicate in the first block and indicate how it is transported to the site. If transportation involves more than one method, indicate for the year the percent use of each method. If it is stored in a permanent stationary storage tank or drum, so indicate. The method of storage is "other" if the chemical is stored in any portable container other than a drum or if it is stored and used directly from a railroad car, tank truck, or other portable container. If it is not stored on site, indicate "none" in the "other" block. The maximum amount on site at any time is the maximum amount in inventory at any time. Annual amount is the total throughput of the material for the calendar year. When reporting a mixture, indicate the total amount of the mixture in pounds. If the chemical is stored on site in a tank, it is necessary to complete Part III questionnaire.

Question 4 - If the chemical is produced or generated on site as a by-product or waste on site, its handling should have been described in Question 2. In completing Question 4, the method of shipping and storing must be indicated for the chemical or mixture. The annual amount should clearly indicate that you are reporting the total mixture, if it is not a pure component, with a composition consistent with that reported in Question 2. Complete Part III if the chemical is stored in a tank.

If the chemical is an intermediate that is not stored longer than 24 hours and is used to produce a final product that does not contain the chemical, the method of shipping and storing would be indicated as none.

III. SPECIFIC INSTRUCTIONS FOR COMPLETING TANK QUESTIONNAIRE

The tank questionnaire consists of seven parts. Answer each part in full as instructed below.

Question IA - Indicate the name and address of the tank manufacturer and what year the tank was installed at this site. Also indicate whether the tank was new or used when installed.

Question IB - Indicate the professional ASME codes that the tank meets and check any other applicable code(s). Codes are defined in current ASME, NFPA, API, etc. publications. If your code is other than those listed, then specify in the space provided. Check all items which describe material of construction, method of construction, orientation, and roof type, and give the tank's loading capacity.

Question II - Indicate the tank function as "storage" if it is used solely to store a chemical and there is no blending, reacting, etc. involved. The tank is "processing" if it is used to blend or mix substances including a listed chemical. The tank is "other" if it is part of a process and used more as a temporary holding tank for intermediates and other process material. A reactor is not a tank.

Question III - In this part, provide information with respect to tank conditions and the method of transferring the chemical to and from the tank.

Question IV - Indicate all devices used for corrosion and spill control. In addition, give the date that tank was most recently tested, if ever, and the method used.

Question V - Describe the security that you have specifically for the tank being reported. If the property is enclosed with a fence and the tank is within the enclosed area, indicate "fence." If you have a security guard stationed at the gate, indicate both "fence" and "staff" or "contractual" security.

Question VI - List all current permits that relate to the tank and chemical being reported.

Question VII - The questionnaire is to be completed for waste materials only if the waste includes a chemical listed in Table 1 and only if the waste is stored in a tank. Report the composition of the waste and the total quantity (pounds) generated for the reporting year.

IV. CONFIDENTIAL BUSINESS INFORMATION

If any question requires you to submit information which is (or would lead a knowledgeable reader to deduce from it) a trade secret, proprietary business information or information related to national security, make a confidentiality claim. () will then treat that information as confidential and not disclose it in any form that would reveal the secret or proprietary information, unless the Department makes a formal finding that the material is not entitled to confidential treatment as provided by law. Unless an emergency (such as fire in your plant which threatens to expose nearby residents to toxic materials)

calls for the immediate release of information, you will be notified in advance if the Department intends to disclose information that you have claimed as confidential. You will be given an opportunity to challenge the Department's decision through administrative processes, and if not satisfied with the outcome, you will be given time (except in an emergency situation) to obtain a restraining order from a court, if you wish to pursue an appeal.

To make a confidentiality claim for information reported you must:

- A. Submit two copies of the report. The first must contain all the information requested. The second should contain no information which you believe is entitled to confidential treatment. (The second copy can be a photocopy of the first with the confidential material blanked out.)
- B. Print, in red ink, at the top left corner "CONFIDENTIAL." Also, if desired mark the top of each page containing confidential information with the heading "CONFIDENTIAL" in large bold type, stamp or hand lettering. Do not mark every page, only the ones that contain confidential information.
- C. Identify all information which you claim to be confidential by underlining or highlighting it in a clear manner. Translucent ink markers are acceptable for this purpose.

Example: Question 3: Quantity Consumed On Site = 140,500 lbs/yr.

- D. Seal the copy of the report which contains confidential information into an envelope, and mark the envelope on both sides with the word "CONFIDENTIAL" in bold type, stamp or hand lettering. Place this envelope, together with the second (non-confidential) copy of the report, inside another envelope for transmittal to the Science and Health Advisory Group (SHAG).
- E. Send the complete package to [redacted] at the address listed in Item I. For your protection, we recommend the use of certified mail, return receipt requested, a messenger service, personal delivery, or other means that will give you verification that your material has been received. You may use ordinary mail, but [redacted] assumes no responsibility for materials not signed for until actually received.

Please give careful consideration to the material you claim as confidential. Be sure it really is proprietary or a trade secret. Do not mark a report "Entire Contents Confidential" or in some similar fashion. Doing so will result in refusal to recognize any confidentiality claim, or in refusing the report.

APPENDIX A EXEMPT QUANTITIES

1. Exempt Quantity for Class I Chemicals

Report on the selected chemical if the total annual quantity exceeds 2.2 pounds per year. Report on a mixture if it contains greater than 0.1% of the chemical and the total weight of the selected chemical in the mixture exceeds 2.2 pounds.

2. Exempt Quantity for Class II Chemicals

Report on the selected chemical if the total annual quantity exceeds 500 pounds per year. Report on a mixture if it contains greater than 1.0% of the chemical and the total weight of the selected chemical in the mixture exceeds 500 pounds.

APPENDIX C

EXAMPLE CLOSED QUESTIONNAIRES

Statement

The following sample questionnaires are examples only and are purely to provide a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

EXAMPLE 1 - CLOSED QUESTIONNAIRE

EXAMPLE 1 - CLOSED QUESTIONNAIRE

06

Re: Special Interest Substances
- Inventory Request -

Dear Sir(s):

The County Bureau of Air Pollution Control is in the process of gathering information on various substances which may be in use at your facility. The information gathered will be used for an Emissions Inventory Data Base.

Attached is a survey form for twenty-one (21) substances. Please provide the requested information on production, usage, sales, and emissions as appropriate for your facility.

Sensitive information gathered through this inventory procedure will be kept confidential.

Should you have any questions regarding the above requested information, please call me at

Very truly yours,

SPECIAL INTEREST
SUBSTANCES - FOR
CALENDAR YEAR

SUBSTANCE	AMOUNT (lbs. ^{or} gals./yr.)			ESTIMATED EMISSIONS
	Produced	Used	Sold	lbs/yr. ^{or} tons/yr.
1. Benzene				
2. Carbon Tetrachloride				
3. Chloroform				
4. Ethylene Oxide				
5. Ethylene Dichloride				
6. Dioxins				
7. Formaldehyde				
8. Methyl Bromide				
9. Methylene Chloride				
10. Perchloroethylene				
11. Toluene				
12. Trichloroethylene				
13. Vinyl Chloride				
14. 1,1,1-Trichloroethane				
15. Lead				
16. Chromium				
17. Beryllium				
18. Asbestos				
19. Arsenic				
20. Ethylene Dibromide				
21. Xylene				

EXAMPLE 2 - CLOSED QUESTIONNAIRE

FIGURE 1.

POLLUTION CONTROL AGENCY: DIVISION OF AIR QUALITY
SURVEY INFORMATION

Do you work with any of the following compounds?

<u>Name of compound</u>	<u>Yes</u>	<u>No</u>
Asbestos	_____	_____
Benzene	_____	_____
Mercury	_____	_____
Radionuclides	_____	_____
Vinyl Chloride	_____	_____
Acetaldehyde	_____	_____
Acrolein	_____	_____
Acrylonitrile	_____	_____
Allyl Chloride	_____	_____
Benzyl Chloride	_____	_____
Beryllium	_____	_____
Cadmium	_____	_____
Carbon Tetrachloride	_____	_____
Chlorobenzene	_____	_____
Chloroform	_____	_____
Chloroprene	_____	_____
Coke Oven Emissions	_____	_____
o-,m-,p- Cresol	_____	_____
p-Dichlorobenzene	_____	_____
Dimethyl Nitrosamine	_____	_____
Dioxin	_____	_____
Epichlorohydrin	_____	_____
Ethylene Dichloride	_____	_____
Ethylene Oxide	_____	_____
Formaldehyde	_____	_____
Hexachlorocyclopentadiene	_____	_____
Maleic Anhydride	_____	_____
Manganese	_____	_____
Methyl Chloroform	_____	_____
Methylene Chloride	_____	_____
Nickel	_____	_____
Nitrobenzene	_____	_____
Nitrosomorpholine	_____	_____
Perchloroethylene	_____	_____
Phenol	_____	_____
Phosgene	_____	_____
Polychlorinated Biphenyls	_____	_____
Propylene Oxide	_____	_____
Toluene	_____	_____
Trichloroethylene	_____	_____
Vinylidene Chloride	_____	_____
o-,m-,p- Xylene	_____	_____

POLLUTION CONTROL AGENCY

DIVISION OF AIR QUALITY

1982 NONCRITERIA POLLUTANT EMISSION INVENTORY
FORM A (For 42 Pollutants Listed on 1982 Qualitative Survey Form)

(1) Company name	(2) Company address			(3) Company representative		
(4) Emission point ID numbers	(5) Type of material Chemical name	(6) Operating schedule hrs/day	days/wk	wks/yr	(7) Amount handled in lbs/yr	(8) Amount processed or produced in lbs/yr
(9) Emission point ID numbers	(10) Stack or exhaust vent data			(11) Type of control equipment/method employed	(12) Control efficiency in percent	
	Hit above ground(ft)	Inside exit diameter(ft)	Exit vel. (fpm)	Exit vol. (ACFM)	Exit temp. (°F)	Design Actual
(13) Emission point ID numbers	(14) Process description; include manufacturer and model number			(15) Actual emissions in lbs/yr	(16) Basis for emission estimates	(17) Fugitive emission control methods

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
NONCRITERIA AIR POLLUTANT INFORMATION

INSTRUCTIONS

1. Company name.
2. Company address.
3. Individual responsible for content of form.
4. Emission point ID number (your company's ID number).
5. Chemical name. A separate form should be completed for each compound handled (photocopy additional copies as needed).
6. Operating schedule when compound used.
7. Estimate the amount of the material which is handled or used in lb/yr.
8. Estimate the amount of the material which is processed or produced in lb/yr, if applicable.
9. Emission point ID number (your company's ID number, same as in instruction 4).
10. Stack or exhaust vent parameters. If emissions are released from building vent without an exhaust fan, complete vent height, diameter (or dimension if not circular), temperature (use room temperature), and put N/A in velocity and exit volume spaces. Include velocity and exit volume when exhaust fans are used. For all stacks or exhaust vents list actual height of discharge point above ground level.
11. Include control equipment for the listed material only. Do not list a control device unless it is effective for the listed material.
12. List the design control efficiency from the manufacturer's data, listing actual control efficiency if known.
13. Emission point ID number (your company's ID number, same as in instructions 4 and 9).
14. Describe process emitting the listed material, using extra pages if necessary. Include manufacturer and model number.
15. Estimate actual emission rate.
16. Describe basis of emission estimate (i.e. test data, emission factors, material balance, etc.).
17. List any methods employed to limit emissions not exiting through stacks or vents.

EXAMPLE 3 - CLOSED QUESTIONNAIRE

PART I: GENERAL INFORMATION

1. COMPANY NAME _____
2. COMPANY STREET ADDRESS _____
3. CITY _____ 4. COUNTY _____ 5. ZIP CODE _____
6. PREVIOUS COMPANY NAME (IF ANY) _____
7. PRINCIPAL CONTACT _____
8. TITLE _____ 9. TELEPHONE _____
10. NUMBER OF EMPLOYEES AT THIS LOCATION _____
11. BUSINESS DESCRIPTION _____

12. IF THE ADDRESS IS DIFFERENT THAN THE LOCATION OF THE FACILITY TO WHICH THIS FORM WAS MAILED, INDICATE THE CORRECT MAILING ADDRESS. _____

13. IF THIS COMPANY DOES NOT USE, PRODUCE, OR HANDLE ANY OF THE CHEMICALS LISTED IN THE INSTRUCTIONS, CHECK THE ADJACENT BOX MARKED "NONE", COMPLETE PART I AND RETURN. NOTE: READ INSTRUCTIONS ON DEFINITION OF "HANDLE" BEFORE COMPLETING NONE ☐
14. SIGNATURE OF THE COMPANY OFFICIAL RESPONSIBLE FOR THE COMPLETION OF THE FORMS.
NAME (PRINT) _____ SIGNATURE _____
TITLE _____ DATE _____

FOR OEP USE ONLY	
PREMISES I.D.	CENSUS TRACT/MCD
X-GRID COORDINATE	RIVER BASIN CODE
Y-GRID COORDINATE	SIC CODE

DHMH 1740A (REV 7-85)

CHEMICAL INVENTORY REPORT FOR STATE TOXIC
SUBSTANCES REGISTRY SYSTEM

PART II

CHEMICAL QUESTIONNAIRE

(Complete a separate data sheet for each chemical)

(COMPANY NAME)

(ADDRESS)

1. CHEMICAL _____ CAS NO. _____

2. IN THE SPACE BELOW, DESCRIBE FOR THIS SITE HOW THE CHEMICAL IS (CHECK APPROPRIATE BLOCKS) ☐ USED,
☐ PRODUCED, ☐ HANDLED, ☐ EXISTS IN STORED WASTE AT THIS SITE. IF THE CHEMICAL IS A PART OR CON-
TAMINANT OF ANOTHER MATERIAL OR IS OTHERWISE COMBINED WITH OTHER MATERIALS, INDICATE ITS PERCENT
(BY WEIGHT) COMPOSITION IN THE MIXTURE. IF THE CHEMICAL IS STORED IN A TANK, INDICATE THE TANK IDEN-
TIFICATION NUMBER.

3. ☐ THE CHEMICAL IS BROUGHT ON SITE.

METHOD OF
TRANSPORTATION ONTO SITE

☐ RAIL _____ % OF TOTAL

☐ TRUCK _____ % OF TOTAL

☐ OTHER _____ % OF TOTAL

METHOD OF
STORAGE

☐ STATIONARY STORAGE TANK

☐ DRUM

☐ OTHER

MAXIMUM AMOUNT ON SITE AT ANY TIME (POUNDS) _____

ANNUAL THROUGHPUT OF THIS CHEMICAL (POUNDS) _____

CHEMICAL QUESTIONNAIRE (CONTINUED)

4. ☐ THE CHEMICAL IS PRODUCED AS AN INTERMEDIATE OR FINAL PRODUCT OR HANDLED AS A BY-PRODUCT OR WASTE ON SITE.

METHOD OF
SHIPPING OFF SITE

- ☐ RAIL _____ % OF TOTAL
☐ TRUCK _____ % OF TOTAL
☐ OTHER _____ % OF TOTAL

METHOD OF
STORAGE

- ☐ STATIONARY STORAGE TANK
☐ DRUM
☐ OTHER

MAXIMUM AMOUNT ON SITE AT ANY TIME (POUNDS) _____

ANNUAL AMOUNT PRODUCED (POUNDS) _____

PART III: TANK QUESTIONNAIRE

(COMPANY NAME)

(ADDRESS)

I. TANK DESCRIPTION

A. TANK MANUFACTURER

NAME: _____

ADDRESS: _____

TANK INSTALLED: YEAR _____ NEW _____ USED _____

B. TANK DESIGN

THIS TANK COMPLIES WITH THE FOLLOWING PROFESSIONAL CODES:

ASME BOILER AND PRESSURE VESSEL CODE _____

API 620 _____ UL 58 _____ NFPA 58 _____

API 650 _____ NFPA 30 _____ UL 142 _____

OTHER (SPECIFY) _____ UNKNOWN _____

OWNER'S TANK I.D. NO. _____

MATERIAL OF CONSTRUCTION: CARBON STEEL _____ STAINLESS _____ PLASTIC _____

CONCRETE _____ OTHER (SPECIFY) _____

CONSTRUCTION: WELDED _____ BOLTED _____ JACKETED _____ INSULATED _____

VERTICAL _____ HORIZONTAL _____ ELEVATED _____ ONGROUND _____ UNDERGROUND _____

(NOTE: ANY TANK WITH 10% OR MORE OF ITS CAPACITY UNDERGROUND INCLUDING PIPING
CONSIDER AN UNDERGROUND TANK)

ROOF: FLOATING _____ FIXED _____ OTHER _____

TANK CAPACITY: _____ (GALLONS)

PART III: TANK QUESTIONNAIRE (CONTINUED)

II. TANK FUNCTION AND STATUS

A. TANK FUNCTION

STORAGE _____ PROCESSING _____ OTHER _____

B. CURRENT TANK STATUS

TANK IN USE _____ TEMPORARILY OUT OF SERVICE _____ PERMANENTLY OUT OF SERVICE _____

IF TANK OUT OF SERVICE: EMPTY _____ NOT EMPTY _____ MATERIAL _____ GALLONS _____

DATE OF LAST USE _____

III. OPERATIONAL DATA

A. TEMPERATURE CONDITIONS:

CRYOGENIC _____ °F REFRIGERATED _____ °F HEATED _____ °F AMBIENT _____

B. METHOD OF FILLING TANK

PUMP _____ GAS PRESSURE _____ GRAVITY _____ OTHER (SPECIFY) _____

C. METHOD OF EMPTYING TANK

PUMP _____ GAS PRESSURE _____ GRAVITY _____

IV. CORROSION AND SPILL CONTROL

A. CORROSION PROTECTION

CHEMICAL INHIBITORS _____ IMPRESSED CURRENT _____ ELECTRICAL ISOLATION _____

STRIKER PLATES _____ SACRIFICIAL ANODES _____ OTHER (SPECIFY) _____

B. LOSS/SPILL CONTROL

AUTOMATED FILL AND DISCHARGE CONTROL _____ DIKES _____

LIQUID LEVEL INDICATOR _____ TEST WELL _____ PRESSURE RELIEF VALVE _____

DRAINAGE COLLECTION _____ CONSERVATION VENTS _____ INVENTORY/EMISSION CONTROL _____

MOST RECENT TANK TEST DATE _____ METHOD USED _____

V. SECURITY

CONTROLLED ACCESS: FENCE _____ STAFF SECURITY _____ BUILDING _____

CONTRACTUAL SECURITY _____ OTHER (SPECIFY) _____

VI. CURRENT PERMITS

HEALTH DEPARTMENT: PERMIT NUMBER _____ AUTHORIZED USE _____

NATURAL RESOURCES: PERMIT NUMBER _____ AUTHORIZED USE _____

VII. WASTE STORAGE

USE THE SPACE BELOW TO IDENTIFY WASTE CONTAINING A LISTED CHEMICAL THAT IS STORED IN A TANK. IF NOT PREVIOUSLY COVERED UNDER PART II, INDICATE HOW THE WASTE IS GENERATED AND ITS PERCENT COMPOSITION IF IN A MIXTURE.

TABLE 1: SELECTED CHEMICAL LIST

**EXEMPT QUANTITY CLASSIFICATION I
REQUIRES REPORTING OF QUANTITIES GREATER THAN
2.2 LBS. (1 KG) PER YEAR**

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>
2-Acetylaminofluorene	53-96-3
Acrylonitrile	107-13-1
2-Aminoanthraquinone	117-79-3
4-Aminobiphenyl	92-67-1
1-Amino-2-Methylantraquinone	82-28-0
o-Anisidine	90-04-0
o-Anisidine Hydrochloride	134-29-2
Arsenic	7440-38-2
Arsenic Compounds (Specify)	
Asbestos (Friable)	1332-21-4
Auramine	492-80-8
Benzene	71-43-2
Benzidine	92-87-5
Benzoic Trichloride	98-07-7
Beryllium	7440-41-7
Beryllium Compounds (Specify)	
Bis(Chloromethyl)Ether	542-88-1
Cadmium	7440-43-9
Cadmium Compounds (Specify)	
Carbon Tetrachloride	56-23-5
Chloroform	67-66-3
Chloromethyl Methyl Ether	107-30-2
Chromium (fume or dust)	7440-47-3

EXEMPT QUANTITY CLASSIFICATION II
REQUIRES REPORTING OF QUANTITIES GREATER
THAN 500 LBS. PER YEAR

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>
Acetaldehyde	75-07-0
Acetamide	60-35-5
Acetone	67-64-1
Acetonitrile	75-05-8
Acrolein	107-02-8
Acrylamide	79-06-1
Acrylic Acid	79-10-7
Allyl Chloride	107-05-1
Aluminum (fume or dust)	7429-90-5
Aluminum Oxide	1344-28-1
4-Aminoazobenzene	60-09-3
Ammonia	7664-41-7
Ammonium Nitrate (solution)	6484-52-2
Ammonium Sulfate (solution)	7783-20-2
Aniline	62-53-3
p-Anisidine	104-94-9
Antimony (fume or dust)	7440-36-0
Antimony Compounds (Specify)	
Barium	7440-39-3
Barium Compounds (Specify)	
Benzamide	55-21-0
Benzyl Chloride	100-44-7
Biphenyl	92-52-4

APPENDIX D

EXAMPLE CHEMICAL USE VS. EMISSIONS BASED QUESTIONNAIRES

Statement

The following sample chemical use vs. emissions based questionnaires are examples only and are purely to provide a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

EXAMPLE 1 - CHEMICAL USE QUESTIONNAIRE

"Draft Transmittal Letter"

The Air Pollution Control Districts (APCD) in the _____, in cooperation with the _____ Air Resources Board, are conducting a survey to determine the amounts used and/or produced of several substances of special interest. These substances are of interest because they may have a significant effect on air quality even though they are used in small quantities. Under _____ law (Health and Safety Code, section 39660e), you are required to provide the information requested in this survey.

We realize the time you spend completing a survey is valuable. Therefore, we have made an effort to simplify the survey form and have limited the information requested. With this in mind, I hope that you will promptly complete and return the attached form.

Please complete the survey form using data from the most recent twelve month period for which you have information. Instructions on how to complete the form are on a separate sheet which is attached. Some of the substances of special interest may be contained in products such as solvents, thinners, cleaners, pesticides or fumigants. If you know that the product(s) you produce or use contain(s) substances listed on the attached form, please provide the trade name and the amount produced or used in the space provided on the back side of the survey form. If the information you are providing is a trade secret per Health and Safety Code Section 39660(e), place a mark in the "Trade Secret" column. The APCD may later request that you provide documentation to support any claim of trade secret. In addition, information other than trade secrets may be identified as confidential in accordance with the provisions of Section 91011, Title 17, _____ Administrative Code. The information which you provide pursuant to this request may be released "(1) to the public upon request, except trade secrets, which is exempt from disclosure or the disclosure of which is prohibited by law, and (2) to the federal Environmental Protection Agency, which protects trade secrets as provided in Section 114(c) of the Clean Air Act and amendments thereto (42 USC 7401 et seq.) and in federal regulations." (Section 91010, Title 17, _____ Administrative Code.) The information, including trade secret and other confidential information, may also be released to other public agencies, which are also required to preserve the protections accorded to trade secrets and confidential information.

Please return the attached survey form within 2 weeks of the date of receipt. If you have any questions regarding this survey, please contact _____.

Thank you for your cooperation in this survey.

Sincerely,

Attachments

INSTRUCTIONS FOR COMPLETING THE SURVEY FORM

General Comment:

Please read the entire instruction sheet before starting to complete the survey form. We are looking for your best estimate of the amount of the listed substances your business uses or produces. When completing the form, use your best approximation if you do not have exact figures. If you think you will need more space than provided, please feel free to make copies of the form before you start.

Procedures:

The survey form is divided into three sections, the company identification and heading section, the compound (substance) section, and the trade name section. Procedures for completing each section are described below.

Identification Section:

The form should come with a name and address label on the upper left hand corner. If your company name or address has been changed, please cross out the incorrect information and provide the corrected name and/or address. If for some reason there is no address label, please fill in the information in the space provided. The information on the top right corner marked "Office Use Only" should not be completed.

Compound Section:

This section is divided into two parts.

The first part is for "pure" materials. Pure material are anything that is 95% or more of that compound: industrial grade is considered a pure compound. There are three columns in this part; the first column is used if you directly produce the substance; the second column is used if the substance is produced as a by-product of some process and is either sold or disposed of as a waste; and the third column is used if you purchase the substance from another company. If you produce or use any of the 49 substances listed, fill in the appropriate column with the amount produced or used during the most recent 12 month period for which you have records. Be sure to circle the units, pounds or gallons, that you are using when reporting the annual amount produced or used.

The second part of the section is to be used when the substance is only a part of a mixture or product. In this case, fill in the annual amount of the product used or produced in the "amount" column of this part and then the percentage of the compound in that product in the next column. Be sure to circle the appropriate units for both the amount used and the percentage, whether it is pounds (LB) or gallons (GAL) and weight percent (WT) or volume percent (VOL), respectively. Next, place an "X" in the appropriate column in part 1, to identify if the mixture is produced or used by your company. If you produced or use several products that contain the same substance, it will be

necessary to make several copies of the form before starting. If the compound of interest is part of a trade name product, please assign a number to the product, starting with 1, and fill in the appropriate information for the product in the trade name section at the end of the survey form.

Trade Name Section:

Complete this section to identify the name and supplier of the product you provided in the compound section.

Space is provided to list the trade name of the product and then the name and address of the supplier for 8 products. There is a number, 1 through 8, associated with each trade name space. This number is used in the compound section to identify which trade name goes with which product.

At the end of this section, we have provided space to indicate if you do not use any of the substances in any form. Also, it would be appreciated if you identify a person to contact in case we have any questions about your response.

EXAMPLE:

Company B produces 10 tons of benzyl chloride and has 0.5 ton per year of allyl chloride as a by-product. This company also uses 40 thousand gallons of "super solution x" which contains 40% benzene and 2% acetaldehyde. The informations provided are considered to be "trace secret" by company B.

FORM TX

EI/MAY

COMPANY NAME _____
STREET _____
CITY _____ ZIP _____

OFFICE USE ONLY
COUNTYID _____ FACILITYID _____ SIC _____

PLEASE CIRCLE THE APPROPRIATE UNITS

CODE SUBSTANCES
43593 ACETALDEHYDE
43595 ACROLEIN
43794 ACRYLONITRILE
99901 ALLYL CHLORIDE
12103 ARSENIC (INORGANIC)
12801 ASBESTOS
45201 BENZENE
99902 BENZYL CHLORIDE
12105 BERYLLIUM

AMOUNT PRODUCED		AMOUNT USED
DIRECTLY	BY-PRODUCT	
_____ LB/GAL	_____ LB/GAL	X _____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	1000 _____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	Y _____ LB/GAL
40000 _____ LB/GAL	_____ LB/GAL	_____ LB/GAL
_____ LB/GAL	_____ LB/GAL	_____ LB/GAL

INCORPORATED IN PRODUCT PRODUCED/USED		
TRADE NAME NUMBER	AMOUNT	PERCENT
1	40,000 LB/GAL	2 WT/VOL
_____	_____ LB/GAL	_____ WT/VOL
_____	_____ LB/GAL	_____ WT/VOL
_____	_____ LB/GAL	_____ WT/VOL
_____	_____ LB/GAL	_____ WT/VOL
1	40,000 LB/GAL	40 WT/VOL
_____	_____ LB/GAL	_____ WT/VOL
_____	_____ LB/GAL	_____ WT/VOL

TRADE NAME PRODUCT _____ SUPPLIER _____

TRADE NAME PRODUCT _____ SUPPLIER _____

6) NAME _____ ADDRESS _____

COMPANY NAME _____ OFFICE USE ONLY _____
 STREET _____ FACILITYID _____ SIC _____
 CITY _____ ZIP _____
 COUNTYID _____

PLEASE CIRCLE THE APPROPRIATE UNITS

PART 1: PURE MATERIALS

SDE	SUBSTANCES	AMOUNT PRODUCED BY-PRODUCT		AMOUNT USED	PART 2: MATERIALS INCORPORATED IN PRODUCT PRODUCED OR USED			TRADE SECRE: YES
		DIRECTLY			TRADE NAME NUMBER	AMOUNT	PERCENT	
1503	ACETALDEHYDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
1505	ACROLEIN	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
1784	ACRYLONITRILE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3001	ALLYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3103	ARSENIC (INORGANIC)	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2801	ASBESTOS	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3201	BENZENE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3002	BENZYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2105	BERYLLIUM	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2110	CADMIUM	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3804	CARBON TETRACHLORIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
5601	CHLOROBENZENE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
1803	CHLOROFORM	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3003	CHLOROPRENE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2112	CHROMIUM	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2112	CHROMATES (ALL FORMS)	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
7304	CHLOROPHENOLS	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
7301	CRESOLS	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
5607	P-DICHLOROBENZENE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
9004	DIALKYL NITROSAMINES	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
6201	1,4-DIOXANE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
9006	EPICHLOROHYDRIN	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
9014	ETHYLENE DIBROMIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3615	ETHYLENE DICHLORIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3601	ETHYLENE OXIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
3502	FORMALDEHYDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
9007	HEXACHLOROCYCLOPENTADIENE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2128	LEAD (INORGANIC)	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
9008	MALEIC ANHYDRIDE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2123	MANGANESE	LB/GAL	LB/GAL	LB/GAL			WT/VOL	
2142	MERCURY	LB/GAL	LB/GAL	LB/GAL			WT/VOL	

PART 1: PURE MATERIALS

E	SUBSTANCES	AMOUNT PRODUCED BY-PRODUCT		AMOUNT USED	PART 2: MATERIALS INCORPORATED IN PRODUCT PRODUCED OR USED		
		DIRECTLY			TRADE NAME NUMBER	AMOUNT	PERCENT
19	METHYL BROMIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
14	METHYL CHLOROFORM	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
02	METHYLENE CHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
36	NICKEL	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
09	NITROBENZENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
10	NITROBENZOPHTHOLINE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
17	PERCHLOROETHYLENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
00	PHENOL	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
11	POLYCYCLIC AROMATIC HYDROCARBONS (PAH)	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
03	PHOSGENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
12	POLYCHLORINATED BIPHENYLS	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
02	PROPYLENE OXIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
00	RADIATIONIDES	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
02	TOLUENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
24	TRICHLOROETHYLENE (TCE)	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
60	VINYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
13	VINYLDENE CHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL
02	XYLENES	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL

TRADE NAME PRODUCT	SUPPLIER	TRADE NAME PRODUCT		SUPPLIER
		NAME	ADDRESS	
5)		NAME	ADDRESS	
4)		NAME	ADDRESS	
7)		NAME	ADDRESS	
8)		NAME	ADDRESS	

IE OF THE ABOVE APPLIED

IE OF PERSON TO CONTACT FOR ADDITIONAL INFORMATION

TITLE

PHONE ()

DATE

EXAMPLE 2 - EMISSIONS BASED QUESTIONNAIRE

APPENDIX D

EXAMPLE CHEMICAL USE VS. EMISSIONS BASED QUESTIONNAIRES

Statement

The following sample chemical use vs. emissions based questionnaires are examples only and are purely to provide a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

The Air Pollution Control Act (APCA) is the
primary legislation governing the control of air
pollution in the United States. It was enacted in
1955 and has since been amended several times.
The APCA is a federal law that sets national
standards for air quality and requires states to
develop and enforce their own air quality
standards. The APCA also provides for the
establishment of the Environmental Protection
Agency (EPA) to oversee the implementation of
the Act.

EXAMPLE 1 - CHEMICAL USE QUESTIONNAIRE

This questionnaire is designed to collect information
on the use of chemicals in your business. It
is intended to be completed by the person who
has the most knowledge of the chemical use in
your business. The information you provide will
be used to develop a list of chemicals that
are used in your business and to determine
whether or not there are any potential health
hazards associated with the use of these
chemicals. The information you provide will
also be used to develop a list of chemicals
that are used in your business and to
determine whether or not there are any
potential health hazards associated with the
use of these chemicals. The information you
provide will be used to develop a list of
chemicals that are used in your business and
to determine whether or not there are any
potential health hazards associated with the
use of these chemicals.

Please print the name of the person who completed this questionnaire in the space provided below.

"Draft Transmittal Letter"

The Air Pollution Control Districts (APCD) in the _____, in cooperation with the _____ Air Resources Board, are conducting a survey to determine the amounts used and/or produced of several substances of special interest. These substances are of interest because they may have a significant effect on air quality even though they are used in small quantities. Under _____ law (Health and Safety Code, section 39660e), you are required to provide the information requested in this survey.

We realize the time you spend completing a survey is valuable. Therefore, we have made an effort to simplify the survey form and have limited the information requested. With this in mind, I hope that you will promptly complete and return the attached form.

Please complete the survey form using data from the most recent twelve month period for which you have information. Instructions on how to complete the form are on a separate sheet which is attached. Some of the substances of special interest may be contained in products such as solvents, thinners, cleaners, pesticides or fumigants. If you know that the product(s) you produce or use contain(s) substances listed on the attached form, please provide the trade name and the amount produced or used in the space provided on the back side of the survey form. If the information you are providing is a trade secret per Health and Safety Code Section 39660(e), place a mark in the "Trade Secret" column. The APCD may later request that you provide documentation to support any claim of trade secret. In addition, information other than trade secrets may be identified as confidential in accordance with the provisions of Section 91011, Title 17, _____ Administrative Code. The information which you provide pursuant to this request may be released "(1) to the public upon request, except trade secrets, which is exempt from disclosure or the disclosure of which is prohibited by law, and (2) to the federal Environmental Protection Agency, which protects trade secrets as provided in Section 114(c) of the Clean Air Act and amendments thereto (42 USC 7401 et seq.) and in federal regulations." (Section 91010, Title 17, _____ Administrative Code.) The information, including trade secret and other confidential information, may also be released to other public agencies, which are also required to preserve the protections accorded to trade secrets and confidential information.

Please return the attached survey form within 2 weeks of the date of receipt. If you have any questions regarding this survey, please contact _____.

Thank you for your cooperation in this survey.

Sincerely,

Attachments

INSTRUCTIONS FOR COMPLETING THE SURVEY FORM

General Comment:

Please read the entire instruction sheet before starting to complete the survey form. We are looking for your best estimate of the amount of the listed substances your business uses or produces. When completing the form, use your best approximation if you do not have exact figures. If you think you will need more space than provided, please feel free to make copies of the form before you start.

Procedures:

The survey form is divided into three sections, the company identification and heading section, the compound (substance) section, and the trade name section. Procedures for completing each section are described below.

Identification Section:

The form should come with a name and address label on the upper left hand corner. If your company name or address has been changed, please cross out the incorrect information and provide the corrected name and/or address. If for some reason there is no address label, please fill in the information in the space provided. The information on the top right corner marked "Office Use Only" should not be completed.

Compound Section:

This section is divided into two parts.

The first part is for "pure" materials. Pure material are anything that is 95% or more of that compound: industrial grade is considered a pure compound. There are three columns in this part; the first column is used if you directly produce the substance; the second column is used if the substance is produced as a by-product of some process and is either sold or disposed of as a waste; and the third column is used if you purchase the substance from another company. If you produce or use any of the 49 substances listed, fill in the appropriate column with the amount produced or used during the most recent 12 month period for which you have records. Be sure to circle the units, pounds or gallons, that you are using when reporting the annual amount produced or used.

The second part of the section is to be used when the substance is only a part of a mixture or product. In this case, fill in the annual amount of the product used or produced in the "amount" column of this part and then the percentage of the compound in that product in the next column. Be sure to circle the appropriate units for both the amount used and the percentage, whether it is pounds (LB) or gallons (GAL) and weight percent (WT) or volume percent (VOL), respectively. Next, place an "X" in the appropriate column in part 1, to identify if the mixture is produced or used by your company. If you produced or use several products that contain the same substance, it will be

necessary to make several copies of the form before starting. If the compound of interest is part of a trade name product, please assign a number to the product, starting with 1, and fill in the appropriate information for the product in the trade name section at the end of the survey form.

Trade Name Section:

Complete this section to identify the name and supplier of the product you provided in the compound section.

Space is provided to list the trade name of the product and then the name and address of the supplier for 8 products. There is a number, 1 through 8, associated with each trade name space. This number is used in the compound section to identify which trade name goes with which product.

At the end of this section, we have provided space to indicate if you do not use any of the substances in any form. Also, it would be appreciated if you identify a person to contact in case we have any questions about your response.

EXAMPLE:

Company B produces 10 tons of benzyl chloride and has 0.5 ton per year of allyl chloride as a by-product. This company also uses 40 thousand gallons of "super solution x" which contains 40% benzene and 2% acetaldehyde. The informations provided are considered to be "trace secret" by company B.

FORM, TX

21/MAY

COMPANY NAME _____
STREET _____
CITY _____ ZIP _____

OFFICE USE ONLY
COUNTYID _____ FACILITYID _____ SIC _____

PLEASE CIRCLE THE APPROPRIATE UNITS

C-006 P-006 SUBSTANCES *****	AMOUNT PRODUCED		AMOUNT USED *****	INCORPORATED IN PRODUCT PRODUCED/USED			TR SE Y XX
	DIRECTLY *****	BY-PRODUCT *****		TRADE NAME NUMBER *****	AMOUNT ***** LB/GAL	PERCENT ***** WT/VOL	
43503 ACETALDEHYDE	____ LB/GAL	____ LB/GAL	X ____ LB/GAL	1	40,000 LB/GAL	2 WT/VOL	
43505 ACROLEIN	____ LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
43704 ACRYLONITRILE	____ LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
99001 ALLYL CHLORIDE	____ LB/GAL	1,000 LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
12103 ARSENIC (INORGANIC)	____ LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
12801 ASBESTOS	____ LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
43291 BENZENE	____ LB/GAL	____ LB/GAL	Y ____ LB/GAL	1	40,000 LB/GAL	40 WT/VOL	
99002 BENZYL CHLORIDE	40,000 LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	
12105 BERYLLIUM	____ LB/GAL	____ LB/GAL	____ LB/GAL	____	____ LB/GAL	____ WT/VOL	

TRADE NAME PRODUCT
***** SUPPLIER

TRADE NAME PRODUCT
***** SUPPLIER

6) _____ NAME
ADDRESS _____

COMPANY NAME _____
 STREET _____
 CITY _____ ZIP _____

OFFICE USE ONLY
 COUNTYID _____ FACILITYID _____ SIC _____

PLEASE CIRCLE THE APPROPRIATE UNITS

PART 1: PURE MATERIALS

PART 2: MATERIALS INCORPORATED IN PRODUCT PRODUCED OR USED

JOE	SUBSTANCES	AMOUNT PRODUCED DIRECTLY	BY-PRODUCT	AMOUNT USED	TRADE NAME NUMBER	AMOUNT	PERCENT	TRADE SECRE: YES
1503	ACETALDEHYDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
1505	ACROLEIN	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
1704	ACRYLONITRILE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2001	ALLYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2103	ARSENIC (INORGANIC)	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2801	ASBESTOS	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3201	BENZENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3602	BENZYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2105	BERYLLIUM	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2110	CADMIUM	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3804	CARBON TETRACHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
5801	CHLOROBENZENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3803	CHLOROFORM	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9003	CHLOROPRENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2112	CHROMIUM	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2112	CHROMATES (ALL FORMS)	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2104	CHLOROPHENOLS	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2101	CRESOLS	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
5807	P-DICHLOROBENZENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9004	DIALLYL NITROSAMINES	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
5201	1,4-DIOXANE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9006	EPICHLOROHYDRIN	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9014	ETHYLENE DIBROMIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3613	ETHYLENE DICHLORIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3601	ETHYLENE OXIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
3502	FORMALDEHYDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9007	HEXACHLOROCYCLOPENTADIENE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2128	LEAD (INORGANIC)	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
9008	MALEIC ANHYDRIDE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2123	MANGANESE	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	
2142	MERCURY	LB/GAL	LB/GAL	LB/GAL		LB/GAL	WT/VOL	

PART 1: PURE MATERIALS

E	SUBSTANCES	AMOUNT PRODUCED		AMOUNT USED	MATERIALS INCORPORATED IN PRODUCT PRODUCED OR USED		TRADE SECRET YES
		DIRECTLY	BY-PRODUCT		AMOUNT	PERCENT	
19	METHYL BROMIDE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
14	METHYL CHLORFORM	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
02	METHYLENE CHLORIDE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
34	NICKEL	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
09	NITROBENZENE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
10	NITROBIPHENOLINE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
17	PERCHLOROETHYLENE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
00	PHENOL	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
11	POLYCYCLIC AROMATIC HYDROCARBONS (PAH)	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
03	PHOSGENE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
12	POLYCHLORINATED BIPHENYLS	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
02	PROPYLENE OXIDE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
00	RADIATIONCLIDES	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
02	TOLENE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
24	TRICHLOROETHYLENE (TCE)	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
60	VINYL CHLORIDE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
13	VINYLDENE CHLORIDE	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	
02	XYLENES	LB/GAL	LB/GAL	LB/GAL	LB/GAL	WT/VOL	

TRADE NAME PRODUCT	SUPPLIER	TRADE NAME PRODUCT	SUPPLIER
NAME ADDRESS	NAME ADDRESS	NAME ADDRESS	NAME ADDRESS
NAME ADDRESS	NAME ADDRESS	NAME ADDRESS	NAME ADDRESS
NAME ADDRESS	NAME ADDRESS	NAME ADDRESS	NAME ADDRESS
NAME ADDRESS	NAME ADDRESS	NAME ADDRESS	NAME ADDRESS

IE OF THE ABOVE APPLIED

IE OF PERSON TO CONTACT FOR ADDITIONAL INFORMATION

TITLE

PHONE ()

DATE

EXAMPLE 2 - EMISSIONS BASED QUESTIONNAIRE

County Health Department

Dear Sir:

As part of our continuing efforts to improve air quality in County, the County Health Department Bureau of Air Pollution Control (Bureau) is now engaged in evaluating the effect of chemical pollutant air emissions. The enclosed forms for reporting of chemical air emissions are a part of that evaluation. Your cooperation in this effort is required, pursuant to Article XX, Rules and Regulations of the County Health Department, Air Pollution Control, including sections 201.A, 201.D, 305.A.3, 305.A.5 and 305.A.6.

Use the enclosed forms to report your chemical pollutant air emissions. Instructions enclosed with these forms will assist you in determining which chemicals emitted to the atmosphere should be reported. To assist you, we have enclosed a listing of the chemicals reported to the Bureau by your company as part of the Chemical Substance Survey.

If there is insufficient room on page 2 to record all of the emissions to be reported, please make sufficient additional copies of page 2 before filling it out.

Please return the completed forms to the Bureau, at the above address, no later than . Questions should be referred to
at

Sincerely yours,

Enclosure

Report of Chemical Pollutant Air Emissions
County Health Department
Bureau of Air Pollution Control

General Instructions

All chemical pollutant air emissions are to be reported. (This includes emissions from combustion sources.) Emissions values may be based on source tests, material balances, emission factors, vapor pressure/diffusion coefficients, plant history or any other acceptable method. Chemical users that have chemical processes or combustion sources on site may have emissions of chemicals other than those reported on the survey, as those chemicals are intermediates in a process or a by-product of combustion. Emissions of these chemicals should be listed also.

Fugitive emissions (not vented or in a stack) must also be reported. These can be from open-top blending operations, degreasing operations, etc., and may be vapors from volatile organic compounds, "dusts" from inorganic pigments, etc. Emission point parameters should be labeled "Ambient, ground level".

All air emissions of chemical pollutants, on the attached list of pollutants, are to be reported. Emissions of pollutants for which the Environmental Protection Agency has established ambient air quality standards (the criteria pollutants: suspended particulate matter, sulfur oxides, nitrogen dioxide, carbon monoxide, ozone and lead) should not be reported here. If emissions from a process are only the criteria pollutants, water vapor and/or CO₂ (Carbon Dioxide), you do not need to report emissions from this process.

Emissions are to be reported in under two conditions: maximum (or uncontrolled) emissions, and normal (or controlled) emissions. Maximum emission rates should be estimated for an uncontrolled process at maximum operating rates. In cases where there is little difference between emissions at maximum and "normal" rates, report "normal" rate data in both columns.

If a given chemical is emitted from more than one source, and only the total emissions are known, then under "Description of Emission Source" list all of the sources, list the chemical and CAS number as indicated, and quantify the emissions under "Normal Emission Rates", or "Maximum" Emission rates.

The Bureau is including a report of the chemicals reported by your company during the Chemical Substance Survey, and a list of all chemical pollutants to be reported. Please use this as a reference when preparing your emission report.

Report of Chemical Pollutant Air Emissions
County Health Department
Bureau of Air Pollution Control

Instructions

The attached forms are for you to record of your non-criteria chemical pollutant air emissions.

Address

1. In the spaces provided, if necessary, please correct the address for any errors on the address label.

2. Description of Emission Source

For each emission source, name or describe the process/outlet: paint booth, tank vent, combustion stack, process vent, etc. Emissions not attributable to specific sources should be identified as fugitive. If air pollution emission control equipment is in place and operating, please identify the type of control equipment being used.

3. Name of Air Emission/CAS Number

Itemize all air emissions from each source, and give the appropriate CAS (Chemical Abstracts Services) number for each. Please account for all chemicals reported on the Chemical Substance Survey, even if emissions are zero. A list of all chemical pollutants to be reported is also attached.

4. Maximum Emission Rates

Report the maximum or uncontrolled hourly, daily and yearly emissions of each named air emission. Maximum emissions should be based on the highest operating rates and for the highest emission rates that have occurred or might reasonably be expected to occur for each respective time period.

5. Normal Emission Rates

Report the normal (controlled) hourly, daily and yearly emissions rates of each named air emission. Note: For either maximum or normal emissions, a process operated, one shift per day, 5 days per week, but not holidays, the daily emissions might be 8 times the hourly emissions, and the yearly emissions might be 2000 times the hourly emissions. For a continuous process, the daily emissions might be 24 times the hourly emission, and the yearly emissions might be 8760 times the hourly emissions. These numbers are dependent on your operating schedule. Please take this into account when estimating emissions.

6. Emission Point Parameters

For point source emissions, give the emissions point temperature (degrees F), total volume of flow, (cubic feet per minute), stack gas velocity, (feet per second), and the stack height above grade level, (feet).

Treat exhaust vents as stacks, but write "horizontal" if the exhaust is vented horizontally. For non-stack/vent emissions write "fugitive" in this column.

Additionally, in the box in the lower right hand corner of the Emission Point Parameter box, indicate by the use of one of the following letters how the emissions estimates were made:

S Source Test

E Emissions Factor -- if the emissions factor is from other than AP-42, please identify the source

M Material Balance

O Other (describe on separate paper and return with the forms)

7. Clarifying Data

If there is variation in the quantity of emissions from one time of year to another, this information should be attached to these forms when they are sent in. Emissions of greater than 30% of the total emitted or less than 20% of the total emitted during any one three month period would justify such a clarifying statement. Also, if emissions are not continuous but, say, only during the hours of 7 to 3 Monday through Friday, please so state. If there is additional data you believe would assist in describing emissions from this plant, attach that data on a separate sheet of paper.

8. Return the completed forms to along with any clarifying data to:

Questions concerning completion of this form may be directed to...

REPORT OF CHEMICAL POLLUTANT AIR EMISSIONS

PAGE 1

COUNTY HEALTH DEPARTMENT
BUREAU OF AIR POLLUTION CONTROL

Name of Company

Address of Company

Source Address

FOR BUREAU USE ONLY

DESCRIPTION OF
EMISSION PROCESS(ES)

NAME OF
AIR EMISSION

CAS NUMBER

MAXIMUM
lbs/hr

EMISSION RATES
lbs/day

lbs/yr

EMISSION RATES
lbs/hr

lbs/day

lbs/yr

EMISSION POINT PARAMETERS

Temperature, stack gas velocity,
stack draft, stack gas volume

CORPUS OFFICIAL

NAME

COMPLETING

TITLE

THIS REPORT

SIGNATURE

TELEPHONE NUMBER

FOR BUREAU USE ONLY

PLANT CODE

COUNTY HEALTH DEPARTMENT
BUREAU OF AIR POLLUTION CONTROL

Mass of Cooperay

FOR BUREAU USE ONLY
PLANT CODE:

[illegible]

BUREAU OF AIR POLLUTION CONTROL

List of Chemical Substances

INDUSTRIAL GASES

CAS NUMBER

Acetylene	74-86-2
Ammonia	7664-41-7
Arsine	7784-42-1
Bromine	7726-95-6
Chlorine	7782-50-5
Diborane	19287-45-7
Fluorine	7782-41-4
Hydrogen selenide	7783-07-5
Hydrogen sulfide	7783-06-4
Methyl acetylene	74-99-1
Methyl mercaptan	74-93-1
Nickel carbonyl	13463-39-3
Nitric oxide	10102-43-9
Nitrogen dioxide	10102-44-0
Ozone	10028-15-6
Phosphine	3803-51-2
Selenium hexafluoride	7783-79-1
Sulfur dioxide	7446-09-5
Sulfur hexafluoride	2551-62-4
Sulfur tetrafluoride	7783-60-0
Sulfur trioxide	7446-11-9
Tellurium hexafluoride	7783-80-4

PHARMACEUTICALS

Amphetamine	51-64-9
2-Aminopyridine	504-29-0
Bacitracin	1405-87-4
C.I. basic green 1 (brilliant green)	633-03-4
Cantharidin	56-25-7
Carbachol chloride	51-83-2
Colchicine	64-86-8
Digitoxin	71-63-6
Digoxin	20830-35-5
Dithiazanine iodide	514-73-8
Emetine dihydrochloride	316-42-7
Ergocalciferol (vitamin D)	50-14-6
Ergotamine tartrate	379-79-3
Fluorouracil	51-21-8
Indomethacin	53-86-1
Mitomycin C	50-07-7
Muscic acid	2763-96-4
Quabain	630-60-4
Phenylthiourea	103-85-5
Phylloquinone (vitamin K)	84-80-0
Physostigmine	57-47-6
Physostigmine salicylate	57-64-7
Picrotoxin	124-87-8
Tris(2-chloroethyl)amine	355-77-1
Valinecycin	2001-95-8

Acetic acid	64-19-7
Chloroacetic acid	79-11-8
Hydrochloric acid	7647-01-1
Hydrogen bromide	10035-10-6
Hydrogen fluoride (hydrofluoric acid)	7664-39-3
Nitric acid	7697-37-2
Phosphoric acid	7664-38-2
Picric acid	88-89-1
Propionic acid	79-09-4
Sulfuric acid	7664-93-9
Thioglycolic acid	68-11-1

CYANIDES

Acrylonitrile (vinyl cyanide)	107-13-1
Adiponitrile	111-69-3
Benzyl cyanide	140-29-4
Cyanogen bromide	506-68-3
Cyanogen iodide	506-78-5
Formaldehyde cyanohydrin	107-16-4
Hydrocyanic acid (hydrogen cyanide)	74-90-8
Isobutyronitrile	109-74-0
Lactonitrile	78-97-7
Malononitrile	109-77-3
Methacrylonitrile	126-98-7
Potassium cyanide	151-50-8
Potassium silver cyanide	506-61-6
Propionitrile	107-12-0
Propionitrile, 3-chloro-	542-76-7
Sodium cyanide	143-33-9

CHEMICAL INTERMEDIATES

Acetaldehyde	75-07-0
Acetic anhydride	108-24-7
Acetone cyanohydrin	75-86-5
Acetone thiosemicarbazide	1752-30-3
Acrolein	107-02-8
Acrylyl chloride	814-68-6
Acrylamide	79-06-1
Acrylic acid	79-10-7
Allyl alcohol	107-18-6
Allyl chloride	107-05-1
Allyl amine	107-11-9
Allyl glycidyl ether (AGE)	106-92-3
Ammonium chloride	12125-02-9
Aniline	62-53-3
Aniline, 2,4,6-trimethyl-	88-05-1
Anisidine	29191-52-4
Benzal chloride	98-87-3
Benzamide, 3-(trifluoromethyl)-	98-16-8
Benzene, 1-(chloromethyl)-4-nitro-	612-23-7
Benzenesulfonyl chloride	98-09-9
Benzidine	92-87-5
Benzotrithioride	98-07-7
Benzyl chloride	100-44-7

EXAMPLE 3 - EMISSIONS BASED QUESTIONNAIRE

Dear Sir or Madam:

The Division of Environmental Management is developing a program to protect human health from the adverse effects of toxic air pollutants. A list of toxic air pollutants which may require regulatory control has been formulated; however, before proceeding any further with development of an air toxics control program, we are conducting a survey to determine which facilities are emitting any of the toxic air pollutants contained in Appendix A and to obtain other essential information for registration purposes.

Attached is a registration form to be filled out by major and minor facilities emitting air pollutants. The registration form is promulgated in accordance with _____ Code, Subchapter _____, Regulation _____. Please provide the requested information and return the form to the Division within 60 days after receipt.

The registration form was designed to obtain necessary emissions data for toxic air pollutants with a minimum of effort. The registration form consists of a General Information Form, a Source Data Form with preceding instructions, Appendix A entitled "Toxic Air Pollutants", and Appendix B entitled "Division of Environmental Management Regional Offices and Local Air Programs".

All facilities receiving a registration form must complete the General Information Form. The official signing the facility certification on the General Information Form is responsible for assuring that the registration form has been properly completed. Facilities that emit a toxic air pollutant listed in Appendix A must complete the Source Data Form. If a facility does not emit any toxic substance listed in Appendix A, the word "NONE" should be entered on the first line of item (3) on the Source Data Form and the registration materials returned to the Division along with the completed General

Information Form. Emissions resulting solely from the combustion of wood, coal, natural gas, liquid petroleum gas or unadulterated fuel oil need not be reported. The instructions for completing the Source Data Form also specify emissions which, for the purpose of this registration, are regarded as trace emissions and are not subject to the full reporting requirements.

Any information requested on the registration form which a facility views as confidential should be labeled with the word "CONFIDENTIAL" on the form and documented in a supplementary letter. Confidential information will be treated in accordance with General Statute

If you have any questions or need assistance, please do not hesitate to contact us. Questions should be directed to the regional office responsible for your geographic area as shown in Appendix B or to the Air Toxics Group located in Your cooperation will be appreciated.

Sincerely

Department of
Division of Environmental Management
Toxic Air Pollutant Source Registration
Instructions For Source Data Form

GENERAL

A Source Data Form must be completed for each emission source at a facility to include stacks, chimneys, vents, fugitive emission sources or other sources that emit any substance listed in Appendix A into the atmosphere. If a facility does not emit any toxic air pollutant listed in Appendix A, then, after filling out the General Information Form the word "NONE" should be entered on the first line of item (3) on the Source Data Form and the materials returned to the Division.

Source emissions resulting solely from the combustion of wood, coal, natural gas, liquid petroleum gas, or unadulterated fuel oil do not need to be reported in this registration. Facilities emitting air pollutants in Appendix A with a maximum source emission rate(s) equal to or less than the emission rate(s) specified in Appendix A for the applicable toxic air pollutant should complete only items (1), (2), (3) and (4) and enter the word "TRACE" in the applicable column(s) for item (5). The emission rates in Appendix A are expressed in "Maximum Emission Rate, Pounds/Hour" and "Maximum Emission Rate, Pounds/15 Minutes".

Maximum emissions for the 15 minute period should be reported only for those toxic air pollutants in Appendix A having a corresponding value under the column "Maximum Emission Rate, Pounds/15 Minutes". If the actual maximum 15 minute emission rate is equal to or less than the 15 minute emission rate in Appendix A, then the emission is considered to be a trace emission.

Emissions of toxic air pollutants identified as "TRACE" will be considered to have an emission rate equal to the applicable emission rate(s) in Appendix A.

SOURCE DATA FORM ITEMS

Item (1) Source Description

Provide a description of the source to which the remainder of the information on the Source Data Form applies. Give the type of source (e.g., incinerator, storage tank, wastewater lagoon, manufacturing building, spray booth, etc.) and its designation (e.g., Unit 1, Bldg. A., etc. within the facility. Identical source descriptions with closely related emission characteristics may be combined. The total number of sources, including the representative source, should be specified in the Source Description, e.g., Spray Booths (6). All entries on the Source Data Form should be completed for the representative source. The Maximum Emissions rates, however, must be the sum of the emission rates for all of the subject sources.

Item (2) Emission Type

Enter the emission type using the codes at the bottom of the Source Data Form. For the purposes of this registration, the following definitions apply:

- A. Unobstructed Vertical Stack or Chimney - Any point in a source designed to emit solids, liquids or gases into the air, including a pipe or a duct but not including flares and that is constructed in a vertical direction and is void of restrictive obstructions, e.g., rain caps.
- B. Obstructed or Nonvertical Stack or Chimney - Any point in a source designed to emit solids, liquids or gases into the air, including a pipe or a duct but not including flares and that is either constructed in a nonvertical direction or has a restrictive obstruction, e.g., rain caps.
- C. Other Point Source - An identifiable piece of equipment that is used as a complete unit to accomplish a specific purpose or produce a specific product which results in an emission through a vent or functionally equivalent opening excluding stacks or chimneys. Describe the particular point source.
- D. Fugitive Emissions - Those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. This includes ponds or lagoons which are used as reservoirs for cooling water, wastewater or other liquid mixtures. Routine leaks entering the atmosphere from pipes, valves, tanks, condensers or other equipment are also considered fugitive emissions and must be reported.
- E. Other - All other emission types not identified by A, B, C or D. Describe the particular emission type falling within this category.

Item (3) Chemical Emitted To Air

List all the chemicals in Appendix A that, for the subject source description, are emitted into the atmosphere. For the toxic air pollutants listed as a metal and its compounds, e.g., arsenic and compounds, each individual compound emitted must be identified and addressed individually on the Source Data Form. Use additional Source Data Forms as necessary.

Item (4) CAS Number

Enter the unique number assigned to the chemical listed in Item (3) by the Chemical Abstract Service (CAS). Appendix A lists the CAS number for most of the subject chemicals. CAS numbers may also be obtained from Material Safety Data Sheets. If you are unable to locate a CAS number, contact the Air Toxics Group at

Item (5) Maximum Emissions

List the maximum emission rates for the subject emission source in pounds per hour and in pounds per 15 minutes. The maximum emission rate in pounds per hour is a normal maximum rate, e.g., the hourly rate of the maximum 24 hour production. The maximum emission rate in pounds per 15 minutes, however, includes startups, shutdowns and malfunctions. Only those chemical emissions having an entry under the column "Maximum Emission Rate, Pounds/15 Minutes" in Appendix A should be listed under the 15 minute time period. It should be noted that when calculating the maximum emissions from storage tanks, both working losses and breathing losses must be considered. Working losses will be greatest during refilling of tanks when vapor laden air is displaced. Calculations for working loss

Item (6) Calculation Method

Enter the letter(s) of the calculation method using the codes at the bottom of the Source Data Form which best describes the method(s) used to determine the emission rates in item (5).

Item (7) Stack or Vent Diameter

Give the inside exit diameter of the stack or vent in feet to the nearest tenth of a foot.

Item (8) Stack or Source Height

Give the actual height in feet above the ground level of the emission outlet. For a fugitive emission, give the height from which the emissions originate.

Item (9) Exit Velocity

Enter the exit velocity in feet per second of the emission at the maximum operating rate.

Item (10) Exit Temperature

Enter the exit temperature in degrees Fahrenheit of the emission outlet at the maximum operating rate.

Department of
Division of Environmental Management
Toxic Air Pollutant Source Registration
General Information Form

FACILITY INFORMATION

1. Facility Name _____
2. Facility Address _____
Street Number and Name

County City Zip Code
3. Mailing Address (if different than facility address)

Street Number and Name or P.O. Box

City State Zip Code
4. Existing Air Permit Number(s) _____
5. Primary Four Digit Standard Industrial Classification Number _____
6. Are there any land surfaces within three miles of your location which are higher than your lowest stack or vented emission point? _____
7. Does your facility have any fuel burning sources? _____
8. Facility Contact Person _____
Title _____ Telephone Number() _____
Area Code

FACILITY CERTIFICATION

I certify that the information contained in this registration is true, complete and correct to the best of my knowledge.

Authorized Signature Title Date

REGISTRATION SUBMITTAL

This registration form should be completed and transmitted within 60 days after receipt to:

Division of Environmental Management
Air Quality Section

Division of Environmental Management
Toxic Air Pollutant Source Registration
Source Data Form

(1) Source Description

(2) Emission Type¹

[illegible] $^1\text{Emission Type:}$

- A. Unobstructed Vertical Stack
B. Obstructed or Nonvertical Stack
C. Other Point Source (Specify)
D. Fugitive Emissions
E. Other (Specify)

2 Calculation Method:

- A. AP-42 Emission Factor
- B. EPA Document (give document number)
- C. Estimate (attach related worksheets)
- D. Materials Balance (attach related worksheets)
- E. Test Data (attach related worksheets)
- F. Other Emission Factor (attach description)

Toxic Air Pollutants

<u>Toxic Air Pollutant</u>	<u>Maximum Emission Rate (Pounds/Hour)</u>	<u>Maximum Emission Rate (Pounds/15 Minutes)</u>	<u>CAS#</u>
1. Acetaldehyde	1.31	19.78	75-07-0
2. Acetic acid	0.18	2.71	64-19-7
3. Acrolein	0.001	0.05	107-02-8
4. Acrylonitrile	0.03		107-13-1
5. Aluminum and compounds	0.07		
6. Ammonia	0.13	1.97	7664-41-7
7. Aniline	0.07		62-53-3
8. Arsenic and compounds	0.0000002		
9. Asbestos	0.0004*		1332-21-4
10. Aziridine	0.007		151-56-4
11. Benzene	0.0002	5.49	71-43-2
12. Benzidine	0.000000005		92-87-5
13. Benzyl chloride	0.03		100-44-7
14. Beryllium and compounds	0.00001		
15. bis-Chloromethyl ether	0.000004		542-88-1
16. Bromine	0.005	0.14	7726-95-6
17. 1,3-Butadiene	0.16		106-99-0
18. Cadmium and compounds	0.0003		
19. Carbon disulfide	0.21		75-15-0
20. Carbon tetrachloride	0.21		56-23-5
21. Chlorine	0.02	0.65	7782-50-5
22. Chlorobenzene	2.56		108-90-7
23. Chlorofluorocarbons	55.67	695.97	
24. Chloroform	0.36		67-66-3
25. Chloroprene	0.32		126-99-8

* For asbestos, assume 30 fibers greater than 5 microns in length are equivalent to a weight of one nanogram.

APPENDIX E

EXAMPLE PERMIT TYPE QUESTIONNAIRES

Statement

The following sample permit type questionnaires are examples only and are purely to provide a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

EXAMPLE 1 - PERMIT QUESTIONNAIRE



COPIES
WHITE - ORIGINAL
GREEN - DIVISION OF AIR
WHITE - REGIONAL OFFICE
PINK - FIELD REP
YELLOW - APPLICANT

STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

OR LOCATION FACILITY EMISSION POINT

READ INSTRUCTIONS
CONTAINED IN
FORM 76-11-12
BEFORE ANSWERING
ANY QUESTION

A ADD
C CHANGE
D DELETE

PROCESS, EXHAUST OR VENTILATION SYSTEM

APPLICATION FOR PERMIT TO CONSTRUCT OR CERTIFICATE TO OPERATE

1. NAME OF OWNER/FIRM	9. NAME OF AUTHORIZED AGENT	10. TELEPHONE	19. FACILITY NAME (IF DIFFERENT FROM OWNER/FIRM)
2. NUMBER AND STREET ADDRESS	11. NUMBER AND STREET ADDRESS		20. FACILITY LOCATION (NUMBER AND STREET ADDRESS)
3. CITY - TOWN - VILLAGE	12. CITY - TOWN - VILLAGE	13. STATE	21. CITY - TOWN - VILLAGE
4. STATE	14. ZIP	15. NAME OF P.E. OR ARCHITECT PREPARING APPLICATION	22. ZIP
5. ZIP	16. N.Y.S. P.E. OR ARCHITECT LICENSE NO.	17. TELEPHONE	23. BUILDING NAME OR NUMBER
6. OWNER CLASSIFICATION A ☐ COMMERCIAL B ☐ INDUSTRIAL C ☐ UTILITY D ☐ FEDERAL E ☐ STATE F ☐ MUNICIPAL G ☐ EDUC INST H ☐ HOSPITAL I ☐ RESIDENTIAL J ☐ OTHER	18. SIGNATURE OF OWNERS REPRESENTATIVE OR AGENT WHEN APPLYING FOR A PERMIT TO CONSTRUCT	24. FLOOR NAME OR NUMBER	25. START UP DATE
7. NAME & TITLE OF OWNERS REPRESENTATIVE	8. TELEPHONE	26. DRAWING NUMBERS OF PLANS SUBMITTED	27. PERMIT TO CONSTRUCT A ☐ NEW SOURCE B ☐ MODIFICATION
		28. CERTIFICATE TO OPERATE A ☐ NEW SOURCE B ☐ MODIFICATION	29. SOURCE CODE

29. EMISSION POINT NO.	30. GROUND ELEVATION (FT)	31. HEIGHT ABOVE STRUCTURES (FT)	32. STACK HEIGHT (FT)	33. INSIDE DIMENSIONS (IN)	34. EXIT TEMP (°F)	35. EXIT VELOCITY (FT/SEC)	36. EXIT FLOW RATE (ACFM)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

37. SOURCE CODE	38. HRS/DAY	39. DAYS/YR	40. % OPERATION BY SEASON Winter Spring Summer Fall

EMISSION CONTROL EQUIPMENT I.D.	CONTROL TYPE	MANUFACTURER'S NAME AND MODEL NUMBER	DISPOSAL METHOD	DATE INSTALLED MONTH / YEAR	USEFUL LIFE
41.					
42.					
43.					
44.					
45.					
46.					
47.					
48.					
49.					
50.					
51.					
52.					
53.					

CALCULATIONS					
S					
E					
C					
T					
I					
O					
N					

CONTAMINANT				ENV RATING UNIT	INPUT OR PRODUCTION	EMISSIONS		% CONTROL EFFIC- CY	HOURLY EMISSIONS (LBS/HR)		ANNUAL EMISSIONS (LBS/YR)	
NAME	CAS NUMBER	ACTUAL	PERMISSIBLE			ERP	ACTUAL		10 ⁴ PERMISSIBLE			
S 54	55	59	60	58	56	63	64	65	66	67	68	
E 69	70	74	75	73	71	78	79	80	81	82	83	
C 84	85	89	90	88	86	93	94	95	96	97	98	
T 99	100	104	105	103	101	108	109	110	111	112	113	
I 114	115	119	120	118	116	123	124	125	126	127	128	
O 129	130	134	135	133	131	138	139	140	141	142	143	

SOLID FUEL		OIL		GAS		APPLICABLE RULE	APPLICABLE RULE
TYPE	TONS/YR	% S	TYPE	THOUSANDS OF GALLONS/YR	% S		
S 144	145	146	147	148	149	150	151
E 144	145	146	147	148	149	150	151
C 144	145	146	147	148	149	150	151
T 144	145	146	147	148	149	150	151
I 144	145	146	147	148	149	150	151
O 144	145	146	147	148	149	150	151

Upon completion of construction sign the statement listed below and forward to the appropriate field representative
 THE PROCESS, EXHAUST OR VENTILATION SYSTEM HAS BEEN CONSTRUCTED AND WILL BE OPERATED IN ACCORDANCE WITH STATED
 SPECIFICATIONS AND IN CONFORMANCE WITH ALL PROVISIONS OF EXISTING REGULATIONS.

155 SIGNATURE OF AUTHORIZED REPRESENTATIVE OR AGENT

DATE

156	157	158	159	160	161	162	163
LOCATION CODE	FACILITY ID. NO.	UTM (E)	UTM (N)	SIC NUMBER	DATE APPL. RECEIVED	DATE APPL. REVIEWED	REVIEWED BY:

PERMIT TO CONSTRUCT	
164 DATE ISSUED	165 EXPIRATION DATE
166 SIGNATURE OF APPROVAL	167 FEE

1. DEVIATION FROM APPROVED APPLICATION SHALL VOID THIS PERMIT
 2. THIS IS NOT A CERTIFICATE TO OPERATE
 3. TESTS AND/OR ADDITIONAL EMISSION CONTROL EQUIPMENT MAY BE REQUIRED PRIOR TO
 THE ISSUANCE OF A CERTIFICATE TO OPERATE

RECOMMENDED ACTION RE: C.O.	
169 DATE ISSUED	170 EXPIRATION DATE
171 SIGNATURE OF APPROVAL	172 FEE

1. ☐ INSPECTED BY
 2. ☐ INSPECTION DISCLOSED DIFFERENCES AS BUILT VS. PERMIT, CHANGES INDICATED ON FORM
 3. ☐ ISSUE CERTIFICATE TO OPERATE FOR SOURCE AS BUILT
 4. ☐ APPLICATION FOR C.O. DENIED

DATE
 INITIALED

SPECIAL CONDITIONS:	
1	
2	
3	
4	
5	
6	
7	

UNITED STATES
DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
WASHINGTON, D. C.

Form 1-10-1916

PLANT INDUSTRY PERMIT QUESTIONNAIRE

This form is to be filled out by the person who has charge of the plant industry in the territory or country in which the plant is grown. It should be filled out for all plants which are grown in the territory or country in which the plant is grown, and for all plants which are grown in the territory or country in which the plant is grown, and for all plants which are grown in the territory or country in which the plant is grown.

PLANT	COUNTRY	PLANT	PLANT
1. Name of plant	2. Name of country	3. Name of plant	4. Name of plant
5. Name of plant	6. Name of country	7. Name of plant	8. Name of plant
9. Name of plant	10. Name of country	11. Name of plant	12. Name of plant
13. Name of plant	14. Name of country	15. Name of plant	16. Name of plant
17. Name of plant	18. Name of country	19. Name of plant	20. Name of plant
21. Name of plant	22. Name of country	23. Name of plant	24. Name of plant
25. Name of plant	26. Name of country	27. Name of plant	28. Name of plant
29. Name of plant	30. Name of country	31. Name of plant	32. Name of plant
33. Name of plant	34. Name of country	35. Name of plant	36. Name of plant
37. Name of plant	38. Name of country	39. Name of plant	40. Name of plant
41. Name of plant	42. Name of country	43. Name of plant	44. Name of plant
45. Name of plant	46. Name of country	47. Name of plant	48. Name of plant
49. Name of plant	50. Name of country	51. Name of plant	52. Name of plant
53. Name of plant	54. Name of country	55. Name of plant	56. Name of plant
57. Name of plant	58. Name of country	59. Name of plant	60. Name of plant
61. Name of plant	62. Name of country	63. Name of plant	64. Name of plant
65. Name of plant	66. Name of country	67. Name of plant	68. Name of plant
69. Name of plant	70. Name of country	71. Name of plant	72. Name of plant
73. Name of plant	74. Name of country	75. Name of plant	76. Name of plant
77. Name of plant	78. Name of country	79. Name of plant	80. Name of plant
81. Name of plant	82. Name of country	83. Name of plant	84. Name of plant
85. Name of plant	86. Name of country	87. Name of plant	88. Name of plant
89. Name of plant	90. Name of country	91. Name of plant	92. Name of plant
93. Name of plant	94. Name of country	95. Name of plant	96. Name of plant
97. Name of plant	98. Name of country	99. Name of plant	100. Name of plant

EXAMPLE 2 - PERMIT QUESTIONNAIRE

STATE OF
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF ENVIRONMENTAL QUALITY

TOXIC CATASTROPHE PREVENTION ACT

EFFECTIVE DATE: January 8, 1986

EXTRAORDINARILY HAZARDOUS SUBSTANCE (EHS)

Substance used, manufactured, stored or capable of being produced in sufficient quantities that its release into the environment would produce a significant likelihood that persons exposed will suffer acute health effects resulting in death or permanent disability.

QUANTITY	COMPOUND	SYNONYMS	FORMULA
> 2000 lbs.	Hydrogen chloride	Hydrochloric acid	HCl
> 2000 lbs.	Allyl chloride	3-chloropropene	$\text{ClCH}_2\text{CH}=\text{CH}_2$
> 500 lbs.	Hydrogen cyanide	Hydrocyanic acid	HCN
> 500 lbs.	Hydrogen fluoride	Hydrofluoric acid	HF
> 500 lbs.	Hydrogen Sulfide	--	H_2S
> 500 lbs.	Chlorine	--	Cl_2
> 500 lbs.	Phosphorus Trichloride	--	PCl_3
> 100 lbs.	Phosgene	Carbonyl Chloride	COCl_2
		Carbonic acid dichloride	
		Chloroformyl chloride	
> 100 lbs.	Bromine	--	Br_2
> 100 lbs.	Methyl isocyanate	Methylcarbylamine	CH_3NCO
		Methyl ester isocyanic acid	
> 100 lbs.	Toluene-2,4-Diisocyanate	2,4-Diisocyanatotoluene	$\text{C}_9\text{H}_6\text{N}_2\text{O}_2$
		2,4-Tolylenediisocyanate	
		2,4-Diisocyanato-1-Methyl Benzene	

RISK MANAGEMENT PROGRAM

A Risk Management Program, as defined in Section 3i of the Toxic Catastrophe Prevention Act, is as follows:

"Risk Management Program" means the sum total of programs for the purpose of minimizing extraordinarily hazardous accident risks including, but not limited to, requirements for safety review of design for new and existing equipment, requirements for standard operating procedures, requirements for preventive maintenance programs, requirements for operator training and accident investigation procedures, requirements for risk assessment for specific pieces of equipment or operating alternatives, requirements for emergency response planning, and internal or external audit procedures to ensure programs are being executed as planned.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
TCPA - REGISTRATION FORM

Page 2

SECTION D.

Make additional copies of this page if necessary.

INVENTORY - Complete the following table for every EHS used, manufactured, stored, handled, or generated at this facility. Use the codes indicated below.

EXTRAORDINARILY HAZARDOUS SUBSTANCE (EHS)	FORM	USE	QUANTITIES STORED			OFFICIAL USE ONLY	QUANTITIES HANDLED			OFFICIAL USE ONLY	COMMENTS
			Average	Maximum	Capacity		Average	Maximum	Capacity		
1.											
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											

QUANTITIES STORED/HANDLED

FORM
 L - Liquid
 G - Gas
 S - Solid

USE
 RM - Raw Material
 I - Intermediate
 F - Final Product
 BP - By-Product
 WP - Waste Product
 O - Other (Describe)

UNITS
 1 - Pounds
 2 - Gallons
 3 - Cubic Feet
 4 - Pounds per hour
 5 - Gallons per hour
 6 - Cubic Feet per hour

QUANTITIES STORED/HANDLED
 Average - Monthly Average
 Maximum - Monthly Maximum
 Capacity - Maximum Capacity

SECTION E

Complete this section for each EHS listed in Section D. Make additional copies of this page if necessary.

1. Indicate the EHS for which the following process description and equipment list applies: _____
2. **PROCESS DESCRIPTION** — Provide a general description of the process involved in the use, manufacture, storage, handling, or generation of the EHS. Indicate typical and maximum operating conditions (i.e. temperatures and pressures) as they relate to the EHS. Provide process flow sheets if available.

3. **EQUIPMENT** — Complete the following table for each piece of equipment involved in the use, manufacture, storage, handling, or generation of the EHS as described in Section E2. Equipment should include all storage and process vessels. Use the codes indicated on the bottom of Page 2 where necessary.

EQUIPMENT		DISTANCE TO NEAREST PROPERTY LINE (ft.)	EQUIPMENT SIZE			AGE OF EQUIPMENT (Yrs.)	EXISTING AIR POLLUTION CONTROL DEVICE	PERMIT OR CERTIFICATE NO.	COMMENTS
DESCRIPTION	DESIGNATION		Capacity	Average	Maximum	Units			
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

SECTION F

Make additional copies of this page or provide attachments if necessary.

1. Does the facility have an existing Risk Management Program (RMP) as defined in Section 3i of the Toxic Catastrophe Prevention Act. (See attached table for definition of RMP.) ☐ Yes ☐ No
2. If the facility has an existing RMP, identify the major items included in the plan.

3. Identify any risk reduction efforts and safety measures employed by the facility to minimize the risks of an accidental release of an EHS from the equipment listed in Section E3.

4. Identify the position titles and expertise of the persons involved with the development of the Risk Management Program and the identification of risks and hazards associated with the handling of the EHS.

POSITION TITLE	EXPERTISE	AFFILIATION

5. Provide a description of the area surrounding the facility, including location of other companies, residential areas and major highways. Indicate proximity to schools, hospitals, nursing homes and public water supplies if located within a two mile radius.

Provide a USGS Topographic Map of the area indicating the location of the subject facility.

SECTION G

INSURANCE CARRIERS - Identify those insurance carriers underwriting the facility's environmental liability and worker compensation insurance policies.

NAME	ADDRESS	TYPE OF POLICY	AMOUNT OF INSURANCE	LIMITATIONS OR EXCLUSIONS

EXAMPLE 3 - PERMIT (REGISTRATION) QUESTIONNAIRE



BUREAU OF AIR POLLUTION CONTROL

INSTRUCTIONS FOR COMPLETING REGISTRATION FOR
STORAGE, TRANSFER AND USE OF TOXIC VOLATILE ORGANIC SUBSTANCES

FORMS VEM-029 & VEM-030

Administrative Code, Title 7, Chapter 27, Subchapter 17, Section 17.3(a), requires that no person shall cause, suffer, allow or permit any toxic volatile organic substance listed in Table 1 (see Subchapter 17) to be emitted from any source operation, storage tank or transfer operation into the outdoor atmosphere unless such equipment and operation is registered with the Department of Environmental Protection by June 17, 1979.

General

Submit one VEM-029 registration for each stack or equivalent stack. (See following definition.)

Submit one VEM-030 for each source operation venting to the stack. One permit-certificate number will be issued for each stack.

Equivalent Stack: If two (2) or more stacks are utilized to vent one (1) or more source operations, the stack venting system will be referred to as an equivalent stack. References to stacks throughout these instructions shall mean stacks or equivalent stacks. References to sources shall mean source operations.

FORM VEM-029

Sec. A 1. Full Business Name - Refers to the name of the corporation, company, association, society, firm, partnership, individual or political subdivision of the state.

Sec. B - Stack Data Information

A separate form VEM-029 must be submitted for each stack, vent, chimney or opening.

- 1 Company Designation - Enter name or number by which the company identifies stack, chimney, vent or opening.
- 2 Certificate Numbers (if any) - List certificate numbers, if any, assigned to this stack.
- 3 Number of Sources Connected to this Stack
 - a. For a single stack venting one or more sources indicate number of sources. Proceed to Item Number (4), Section B.
 - b. For multiple stacks venting one or more sources include a simple diagram showing sources, control apparatus and stacks. Include information required in Items 4 to 9 of Section B for each stack. Indicate number of stacks in Section B, Item 3b.
- 4 Distance to the Nearest Property Line (ft.) - No instructions required.
- 5 Stack Diameter (in.) - Insert stack diameter in inches for circular stacks. Insert cross sectional dimensions for square or rectangular stacks. (Equivalent diameter is acceptable for square or rectangular stacks.)
- 6 Discharge Height Above Ground (ft.) - Indicate the vertical distance from ground level to the stack exit point in feet.
- 7 Exit Temperature of Stack Gases (°F) - No instructions required.
- 8 Volume of Gas Discharged at Stack Conditions (A.C.F.M.) - Give the volume rate of gas discharged from the stack in actual cubic feet per minute (ACFM) at stack conditions.
- 9 Discharge Direction (Horizontal, Down or Up) - If at an angle choose nearest direction. Use horizontal for stacks with rain caps.

Signature: The signature must be that of an authorized officer or employee of the operator or owner whose business name appears in section A 1.

Sec. C - No instructions required.

FORM VEM-030 - Complete a VEM-030 Emission Source Data form for each source vented to the stack, conduit, flue, duct, vent or similar opening.

Sec. D - Source Information

- 1 Source Description - Include a brief description of the source operation from which air contaminants are emitted. Include make and model number of equipment if applicable.
- 2 Operating Schedule - Fractions of an hour of operation must be registered in hrs/day to the nearest hour. Important - Indicate the anticipated start-up date.
- 3 % Annual Throughout (by quarter) - No instructions required.
- 4 Discharge Volume & Temperature - No instructions required.

Sec. E - Control Apparatus

Description - Include a brief description of the air pollution control system. Please note that a product recovery unit is not a control device.

Indicate the initial cost of each control apparatus and related ductwork.

Under annual operating cost, include the cost to maintain and operate each control apparatus and related ductwork.

Under number of sources connected, indicate for each control the number of sources connected. (A control device is not a source.)

Important: Attach a description of the air pollution control system. Attachment must be included to provide details describing control apparatus. This description must include the basic methods applied to remove air contaminants as well as the following

Data and calculations used in the sizing and selection of the control apparatus.

If the control apparatus is a standard commercial piece of equipment, specify the manufacturer, model, size, type, and capacity of the apparatus. (Sales brochures would be helpful.)

If the control apparatus is other than standard equipment, provide a sketch of the control apparatus. Provide the calculations as used to determine the control efficiency.

Describe the means of disposal of any air contaminants which are collected by the control apparatus.

Show any bypasses of the control apparatus and specify when such bypasses are to be used and under what conditions.

Describe the procedure to be used for preventing losses of air contaminants to the open air when repairing, servicing, cleaning, reactivating, or otherwise maintaining and operating the unit.

Indicate the temperature of gases entering into and leaving the control device.

Indicate the direction of gas flow through the device and the pressure drop across the device.

Additional Data Needed For Specific Control Devices

Scrubber

Type of Scrubber i.e., venturi, bubble plate
Gas Flow Rate Before the Scrubber
Liquid Flow Rate in gal/min
Scrubbing Liquid used
Chemical Additives Used (if any) and amounts
Scrubbing Liquid, once through or recirculated
Sketch of Device
Pressure Drop across Scrubber
Demister type and dimensions

Note: For packed scrubber indicate type of packing and dimensions of packed bed.

Cyclones

Wet or Dry Cyclones
Size Distribution of Contaminant
Density of Contaminant
Cyclone Inlet Temperature (°F)
Dimensions of Cyclone

Electrostatic Precipitators

Evidence that contaminant is liquid or solid (not vapor). Are contaminants heated or cooled between source and precipitator?
Type of Unit i.e., 1 or 2 stage; tube or plate
Method of Cleaning, i.e., rapping, gravity, wash off
Capacity (CFM)
% Moisture in Gas Stream
Temperature of Inlet Stream (°F)
Collecting Surface, ft²
Apparent Migration Velocity (Precipitation rate)
Corona Power
Resistivity of Particles

Bag House

Number and size of bags
Total cloth filtering area
Maximum capacity in cubic feet/minute
Type of bag fabric
Bag Fabric Weight if available
Weave and Finish of bags, if available
Air/Cloth ratio
Method of Cleaning

Filter Pads or Filter Banks

Type of Filters
Dimensions of Filter Bank

Adsorption

Adsorbent
Operating Pressures
Dimensions of Bed
Cubic Feet/Minute through bed
Method of Measuring Activity
Method of Schedule of Reactivation (if applicable)
Method of Disposal of Desorbate

Condensers

Type of condenser
Entrance and exit temperatures of gas stream
Type of cooling medium
Flow in gals/min of cooling liquid
Area of cooling surface

Sec. F - Air Contaminants From Source

Air Contaminant Emissions (lbs/hr) Pounds Per Hour - List each air contaminant (chemical name) which evolves from the operation and is discharged into the open air through the stack, chimney, etc. The emissions should be expressed in pounds per hour. General terms such as particulates, hydrocarbons, sulfates, etc. will not be acceptable. However, "particulates" will be an acceptable term for indirect heat exchanger and incinerator emissions. Other terms which adequately describe the emissions from manufacturing processes, i.e. C_1 to C_5 HC, NO_x , alumina-silica, sand, stone will be acceptable.

Note: Terms such as "none", "nil", "trace", "negligible", etc. will not be acceptable. However, "less than.....pounds per hour" or similar statement may be accepted.

Under the column marked "How Determined" insert the proper code(s) as listed below. Attach any test results or calculations.

Contaminant emissions determined by:

- | | |
|--|--|
| 1. Stack test or other emission measurements | 4. Estimate |
| 2. Material balance | 5. Calculation using special emission factors that differ from AP-42 (specify) |
| 3. Calculation using EPA emission factors from AP-42 | |

Sec. G - Fill out the applicable section(s) for the Source Operation. In some cases more than one section must be completed for the same source. An example would be a source operation which is a manufacturing operation and also fuel burning equipment, i.e., glass furnace.

Sec. G-A Manufacturing & Material Handling

- Process Description - Briefly describe the process and attach a more detailed process description, if necessary, and a flow diagram for the source operation. Include descriptions of processes which will effect physical or chemical changes and the methods of charging and discharging materials.
- Total materials processed - No instructions required.
- Raw Materials, % By Weight - List all raw materials that are to be charged into the source. (Excluding air and water)

Sec. G-B - Fuel Burning Equipment

- Gross Heat Input - "Heat Input Rate" means the rate at which the aggregate heat content based on the higher heating value of the fuel is introduced into the fuel burning equipment.
- Type of Heat Exchange - "Direct Heat Exchanger" means equipment in which heat from the combustion of fuel is transferred to a substance being heated so that the latter is contacted by the products of combustion and may contribute to the total effluent. "Indirect Heat Exchanger" means equipment in which heat from the combustion of fuel is transferred by conduction through a heat conducting material to a substance being heated so that the latter is not contacted by and adds nothing to the product of combustion
- Type - Primary Fuel - Secondary Fuel - Indicate the type of fuel used and, if applicable, the secondary fuel type used. "Fuel" means solid, liquid or gaseous materials used to produce useful heat by burning.
- Firing Method - Indicate the method of firing, for the primary and secondary fuel, as outlined on the following page:

Absorption

Type, packed, sieve plate, bubble plate, or other
Dimensions
Liquid used
Amount of liquid used in gal/min
Gas Flow Rate through unit in standard cubic feet/minute
How is rich liquid disposed of? Stripping tower, neutralization other?
Number of transfer units (NOG); Ht. of transfer units (HOG)
Identify surfactants

Compression, Refrigeration

Equilibrium temperature of condenser
Composition of feed vapor
Composition of recovered liquid and/or vapor and quantity of each
Number of equilibrium stages

Solid Fuel Firing		Liquid Fuel Firing		Gaseous Fuel Firing
Wet Bottom	Fluidized Bed	Rotary Cup	Mechanical Atomization	Forced Draft
Dry Bottom	Cyclone	Steam Atomization	Other (Specify)	Other (Specify)
Stoker (specify)	Other (Specify)	Air Atomization		

5 & 6 % Sulfur in Fuel (Dry) & % Ash of Fuel (Dry) - By weight

7 Amount Burned Per Year - No instructions required.

Sec. G-C - Incineration

1 Type of Unit - Name the type of incineration unit by using the following designations and include the make and model number if applicable:

Single Chamber Incinerator	Pathological Incinerator
Single Chamber Incinerator with controlled air	Sludge Incinerator
Single Chamber Incinerator with auxiliary fuel	Flare (visible flame or hidden flame)
Multiple Chamber Incinerator	Other Incinerator (specify)
Multiple Chamber Incinerator with controlled air	
Multiple Chamber Incinerator with auxiliary fuel	

Include attachments indicating all the control methods and the amounts of air contaminants with and without control devices for the following:

Particulates (corrected to 12% CO ₂ excluding the auxiliary fuel contribution	HCl
Smoke (indicating Ringelman Number)	Total Hydrocarbons (non methane)
Unburned Waste and Ash	NO _x , CO, SO ₂
Odors	Pb, Hg, Cd, As, Al, Fe, Sn, Cr

Submit a sketch of the incinerator design indicating the following:

Information on burner controls, setting and cycles to be used.

All burners, primary and secondary, and their locations.

The BTU/hr rating of each burner.

Method of refuse feed, (i.e., manual, conveyor, etc.)

Indicate overfire or underfire air if applicable and show the location of entrance ports.

Include minimum operating temperatures and retention time in all incinerator chambers. Show locations of temp. sensors.

2 Constituents of Waste(s) - Specify the composition of the wastes to be incinerated.

3 Waste Code - Check the type of waste(s) that will be incinerated using the codes expressed in AC 7:27-11.

Sec. G-D - Storage Facility

1 Tank Contents - Specify the chemical composition of the contents of the tank or bin. Designations such as gasoline, No. 2 fuel oil, etc. will be acceptable.

2 Tank or Bin Type - Indicate the height or length of tank or bin in feet. (Length if horizontal, Height if vertical) Denote the type of tank or bin utilizing one of the following:

Fixed Roof	For a Floating Roof indicate whether there is a single or double seal
Fixed Roof, Internal Floating Roof	Floating Roof
Fixed Roof, Conservation Vent	Floating Roof single deck pan
Variable vapor space	Floating Roof double deck pan
Pressurized	Floating Roof single deck pontoon
Open Top Tank	Floating Roof double deck pontoon

3 Capacity - Insert the capacity of tank or bin in thousands of gallons for liquid storage and thousands of cubic feet for gaseous or solid storage. Check on application the units used.

Equivalent or Actual Diameter - Indicate the diameter of the tank or bin in feet. For tanks which are not spherical or cylindrical, submit dimensions of tank or bin in feet. (Equivalent diameter is acceptable.)

4 Vapor Pressure - No instructions required.

5 Filling Rate - No instructions required.

6 Method of Fill - No instructions required.

7 Color of Tank - No instructions required.

8 Insulated Tank - No instructions required.

STATE DEPARTMENT



OF ENVIRONMENTAL PROTECTION

Side 1

BUREAU OF AIR POLLUTION CONTROL

REGISTRATION FOR
STORAGE, TRANSFER AND USE OF
TOXIC VOLATILE ORGANIC SUBSTANCES

TO:

Read Instructions Before Completing Registration

SECTION A	1. Full Business Name _____	
	2. Mailing Address _____ (No.) (Street) (City) (State) (Zip Code)	
	3. Division and/or Plant Name _____	
	4. Plant Location _____ (No.) (Street) (Municipality) (County)	
	5. Location of equipment on premises (Bldg., Dept., Area, etc.) _____	
	6. Nature of Business _____	
	7. Plant Contact _____ Name (Print or Type) Title Telephone No.	
SECTION B	STACK INFORMATION (EQUIVALENT STACK INFORMATION)	
	1. Company Designation of Stack(s) _____	
	2. Certificate Numbers (if any) _____	
	3. a. Number of Sources Venting to this Stack _____ (Complete a separate VEM-030 for each source.) b. Number of Stacks Venting Source Operation(s) _____	
	4. Distance to the nearest Property Line (ft.) _____	
	5. Stack Diameter (inches) _____	
	6. Discharge Height Above Ground (ft.) _____	
	7. Exit Temperature of Stack Gases (°F) _____	
	8. Volume of Gas Discharged at Stack Conditions (A.C.F.M.) _____	
9. Discharge Direction ☐ Horizontal ☐ Up ☐ Down		

The information supplied on Registrations VEM-029 and VEM-030 including the data in supplements, is to the best of my knowledge true and correct.

Signature

Name (Print or Type)

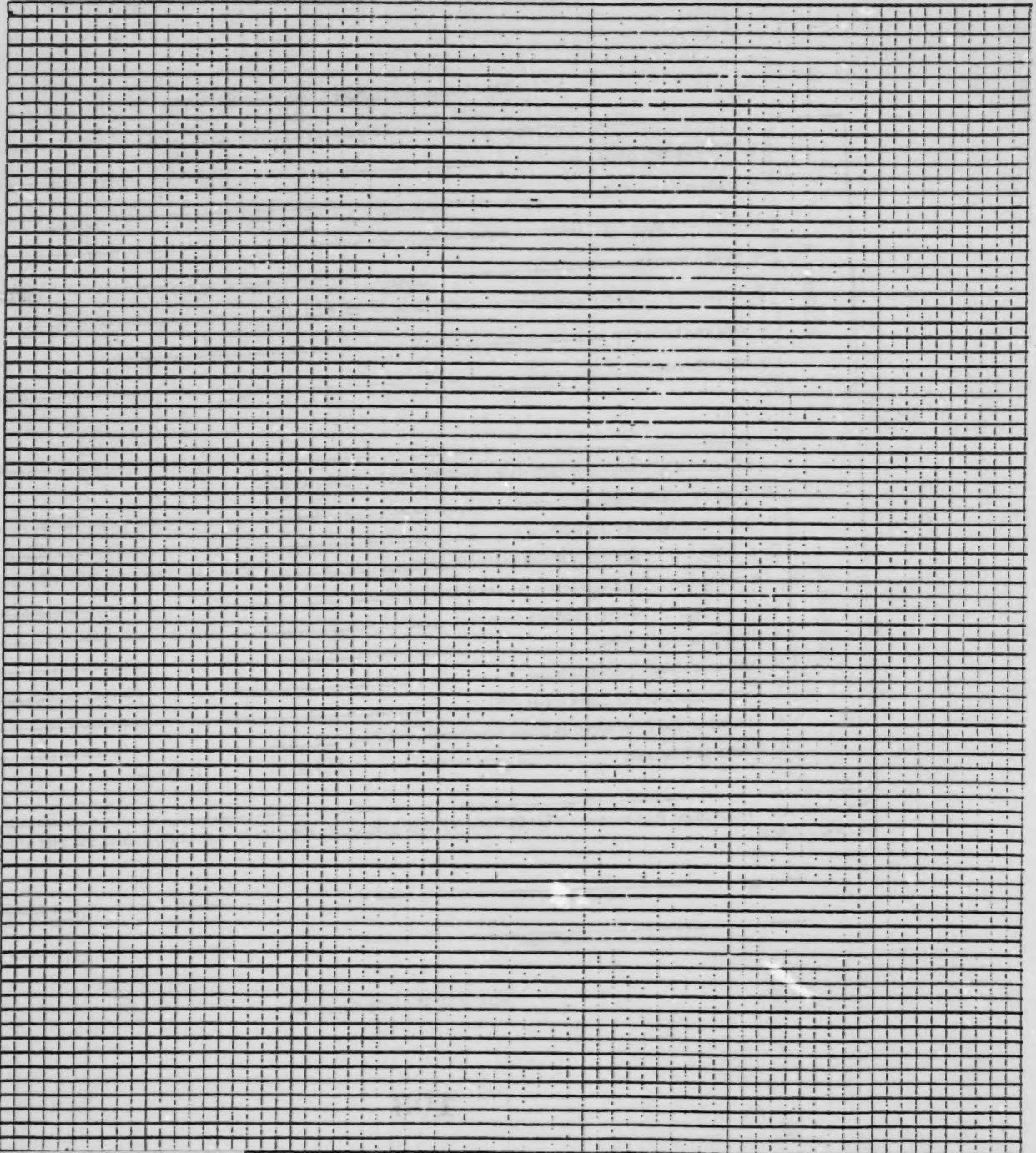
Date

Title

FOR ASSISTANCE CALL -

SECTION C **DIAGRAM INSTRUCTIONS** - A diagram must be included showing the configuration of all stacks, control apparatus and sources related to this application. **NOTE:** In cases of multiple stacks, include the following information for each stack: (1) distance to nearest property line, (2) stack diameters, (3) stack height above ground, (4) exit temperature ($^{\circ}\text{F}$) of stack gases, (5) volume rate of gases (ACFM) discharged at stack conditions, (6) the location and type of control apparatus, (7) direction of flows, and (8) maximum stack emissions.

Diagram





BUREAU OF AIR POLLUTION CONTROL
REGISTRATION FOR
STORAGE, TRANSFER AND USE OF
TOXIC VOLATILE ORGANIC SUBSTANCES

Source Emissions And Source Data Form
(Complete this form for each source and submit with Registration Form VEM-029)

SECTION D	SOURCE INFORMATION			
	1. Source Description _____			
SECTION E	2. Operating Schedule _____			
	Hours/Day	Hours/Year	Operation Starting Date	
	3. % Annual Production Throughput By Quarter			
	4. Volume Of Gas Discharged From This Source (ACFM) _____			
SECTION F	CONTROL APPARATUS ON SOURCE			
	Primary	Capital Cost (Dollars)	Annual Operating Cost (Dollars)	No. of Source Connected
	Secondary			
	Tertiary			
SECTION F	AIR CONTAMINANTS FROM SOURCE			
	CONTAMINANT NAME	Emissions w/o Control (lbs./hr.)	Emissions with Control (lbs./hr.)	How Determined
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____
	_____	_____	_____	_____

TO INSURE PROPER COORDINATION BETWEEN VEM-029 AND VEM-030 FORMS, INSERT IDENTICAL COMPANY NAME AND DESIGNATION OF STACK FROM VEM-029, SIDE 1.

Full Business Name _____

Company Designation of Stack(s) _____

SECTION G

A. MANUFACTURING AND MATERIALS HANDLING

1. Process Description _____

2. Total Amount ☐ Batch _____ lb/batch, _____ hr/batch
Materials Processed ☐ Continuous _____ lb/hr

3. Raw Materials % By Wt. Raw Materials % By Wt.

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

B. FUEL BURNING EQUIPMENT

1. Gross Heat Input (10^6 BTU/HR) _____2. Type Heat Exchange ☐ Direct ☐ Indirect ☐ Internal Combustion Engine
PRIMARY FUEL SECONDARY FUEL

3. a. Type of Fuel: _____

b. Heating Value (Btu/lb.): _____

4. Method of Firing: _____

5. % Sulfur in Fuel (Dry): _____

6. % Ash Content of Fuel (Dry): _____

7. Amount Burned/Yr. _____

Units: Solid Fuel (Tons)

Liquid Fuel (10^3 Gal.)Gaseous Fuel (10^6 Ft.³)

C. INCINERATION

1. Type of Unit _____

2. Constituents of Waste(s) _____

3. Waste Code ☐0 ☐1 ☐2 ☐3 ☐4 ☐5 ☐6

4. Amount Burned (lbs./hr.) _____ Type of Auxil. Fuel (if any) _____

D. STORAGE FACILITY

1. Tank Contents _____

2. Type of Tank or Bin _____ Height or Length (Ft.) _____

3. Capacity _____ (10^3 Ft.³) ☐ Equivalent or Actual Diameter (Ft.) _____
(10^3 Gal.) ☐

THE REMAINING QUESTIONS ARE TO BE ANSWERED ONLY FOR LIQUID STORAGE

4. Vapor Pressure at 70°F (PSIA) _____ Storage Temp. if Not Ambient (°F) _____

5. Filling Rate (Gal/Min) _____ Annual Throughput (10^3 Gal/Yr) _____6. Method of Fill ☐ Top ☐ Bottom ☐ Submerged ☐ Other (Explain Below)7. Color of Tank ☐ White ☐ Other Exposed to Sun's Rays ☐ Yes ☐ No

8. Insulation Data for Insulated Tanks (Volatile Organic Substances)

Type _____, Thickness (Inches) _____ Thermal Conductivity (BTU/HR/FT²/°F) _____

For Department Use Only

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APPENDIX F

EXAMPLE GENERAL QUESTIONNAIRES

Statement

This example is a special general questionnaire used for emergency preparedness type programs. The format is typical of a general questionnaire and the example shown here is for this reason. Although this type questionnaire can provide valuable non-emergency information it is not usually used in air toxics programs.

AIR TOXICS EMERGENCY PREPAREDNESS QUESTIONNAIRE

Instructions to Part One:

This questionnaire consists of three principal parts. The first part, which should be filled out first, consists of the attached list of 400 + chemicals identified by EPA as being acutely toxic when released into the air. Beside each chemical on the list are spaces for you to checkmark a "YES" or a "NO", depending on whether your company ever stores, processes, produces, transports or otherwise handles each of these chemicals. Please check a "YES" or a "NO" response for each and every chemical on the list.

Part Two

For each chemical that you checked "YES" in Part One, please answer the following questions to the best of your ability. Please attach plain or letterhead paper with your answers to these questions, but please be very careful to identify the question being answered by including the question number with your response, identifying the specific chemical being discussed and to include your company name on each sheet.

1. Presently, how much (i.e. gallons, pounds, liters, kilograms, etc.) of each chemical is at your facility?
 - a. What is the minimum, average and maximum quantities (i.e. gallons, pounds, etc.) that are on site at any given time?
 - b. What do you use these chemicals for?
2. Explain specifically how the acutely toxic chemicals are handled or stored on site?
 - a. Are special conditions like high or low pressure, heating, or cooling involved in your handling, processing or storage?
 - b. In what physical state(s) is the chemical found on site (e.g., gas, liquified gas, liquid, solid, dust, powder)?
 - c. Are these chemicals handled or stored near other chemicals that are flammable, explosive, or reactive?
 - d. Are any special precautions taken to protect the

ACUTELY TOXIC CHEMICALS QUESTIONNAIRE

company _____ location _____
name _____ phone _____
County _____

YES NO CHEMICAL

_____	_____	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-(methylcarbamoyl) oxime
_____	_____	2-Butene, 1,4-dichloro-.. (E)
_____	_____	2-exo-Chloro-6-endo-cyano-2-norbornanone O-(methylcarbamoyl)oxime
_____	_____	Acetone cyanohydrin
_____	_____	Acetone thiosemicarbazide
_____	_____	Acrolein
_____	_____	Acrylamide
_____	_____	Acrylonitrile (vinyl cyanide)
_____	_____	Acrylyl chloride
_____	_____	Adipenitrile
_____	_____	Aldicarb
_____	_____	Aldrin
_____	_____	Allyl alcohol
_____	_____	Allyl amine
_____	_____	Aluminum phosphide
_____	_____	Aminopterin
_____	_____	Amiton
_____	_____	Amiton oxalate
_____	_____	Ammonia
_____	_____	Ammonium chloroplatinate
_____	_____	Amphetamine
_____	_____	Aniline
_____	_____	Aniline, 2,4,6-trimethyl-
_____	_____	Antimony pentafluoride
_____	_____	Antimycin A
_____	_____	Antu
_____	_____	Arsenic pentoxide
_____	_____	Arsenous oxide
_____	_____	Arsenous trichloride
_____	_____	Arsine
_____	_____	Azinphos-ethyl

acutely toxic chemical?

- e. Where are these chemicals handled or stored on the site in relation to the site fence line? (Please submit a diagram of your plant layout indicating where these chemicals are stored, processed, handled, etc.)
 - f. How much (maximum, minimum, average) is handled or stored in any one location at any one time?
 - g. Do you have contaminant containment capacity available should you have a leak?
 - h. If you have a leak from your storage area what do you do or what would you do?
3. Are any of the acutely toxic chemicals transported to or from your plant?
- a. What are the minimum, average and maximum shipment quantities (in tons, gallons, or pounds, etc.)?
 - b. Is the substance shipped by rail, truck, barge or other mode and in what kind of container (drums, bags, tank wagons, etc.)? Specify. Please also give the name of the haulers used.
 - c. How frequent are the shipments and at what time of day?
 - d. What are the transport routes through the community to and from the site?
4. Have you ever had an accidental release(s) of one of the listed chemicals into the environment?
- a. If so how much was released and describe how the accident(s) occurred.
 - b. Describe the response efforts taken.
 - c. What does your company do to prevent releases of this type?
5. Do you have any special on-site transfer procedures between the transport vehicle and on-site storage equipment for chemicals that are on the list?
6. Do you have any special on-site transfer procedures between storage and process equipment?
7. Do you have any safety control devices in place on

transfer, processing, and storage equipment on site (e.g., system interlock, pressure relief valve, pressure/temperature control monitor, emergency cooling system, cut-off valve, vent, flare, equipment redundancies, etc.)?

8. Do you have alarms, warning signals, and monitors to indicate when a release occurs?
9. Do you have a routine plan and schedule for the inspection and testing of your various chemical handling equipment, safety control devices, and warning devices?
10. If you have a failure of any transfer, processing or storage equipment, what do you do?
11. Is the area around the site best described as:
 - ☒ Residential?
 - ☒ Commercial?
 - ☒ Industrial?
 - ☒ Mixed?
 - ☒ Agricultural?
 - ☒ Special use/institutional?
 - ☒ Open space?

Please use the above categories to indicate what type of area is located on the North, West, South and East sides of the plant.

12. Do you have a safety plan (also referred to as an emergency or contingency plan) for your site? Is your site plan coordinated with the local community contingency plan?
 - a. Do you have available on-site emergency response equipment (e.g., firefighting equipment, personal protective equipment, communications equipment) and trained personnel to provide on site initial response efforts?
 - b. What equipment is available? (e.g., positive pressure respirator, chemical suits, unmanned fire monitors, foam deployment systems, radios, beepers, etc.)
 - c. Do you have medical support both on site and at local hospitals for emergency exposures?
 - d. Who is the emergency contact for the site (person's name, position, and 24-hour telephone number) and what is the chain of command during an emergency?
 - e. Do you have employee evacuation plans in effect and

are the employees trained to use them in the event of an emergency?

- f. What kind of line notification system do you have between the site and local community emergency services (e.g., direct alarm, direct telephone hook-up, computer hook-up) to address emergencies on-site?
 - g. Does the site have a mechanism to alert employees and the surrounding community in the event of a release?
 - h. How does the site educate the community about the meaning of various alarms or warning systems?
 - i. How does the site coordinate with the community government and local emergency and medical services during emergencies?
 - j. Does the site have any mutual aid agreements for obtaining emergency response assistance from other industry members? If so, what are they and with whom?
 - k. Does the site have any contracts or other pre-arrangements in place with cleanup specialist for cleanup and removal of releases, or is this handled in-house? What is the response time?
 - l. How does the site determine concentrations of released chemicals existing at the site? (Are there toxic gas detectors, explosimeters, or other detection devices positioned around the site? Where are they located?)
 - m. Does the site have wind direction indicators positioned within the site perimeter to determine in what direction a released chemical will travel? Where are they located?
 - n. Do you have the capability for modelling vapor cloud dispersion?
 - o. Does the site have available auxiliary power systems to perform emergency system functions in case of power outages?
 - p. How often is your safety plan tested and updated?
13. Do you have a safety training plan for your employees?
- a. Are your employees trained in the use of emergency response equipment, personal protective equipment,



and emergency procedures detailed in the plant safety plan? How often is training updated?

b. Does the site hold simulated emergencies for training purposes? How often? How are these simulations evaluated and by whom? Are the local community emergency response and medical service organizations invited to participate?

c. Are employees given training in methods for coordinating with local community emergency response and medical services during emergencies? How often?

14. Does the site have an emergency response equipment and systems inspection plan?

a. Does the site have a method for identifying emergency response equipment problems? Describe it.

b. Is there testing of on-site alarms, warning signals, and emergency response equipment? How often is this equipment tested and replaced?

Part Three

1. In addition to the chemicals that you indicated "YES" responses to in Part One, do you have any chemicals on site that might generate by-products, waste products or combustion products (in the event of a fire) that are on the list?

a. If so, what chemicals do you have and which of the chemicals on the list could they generate, and how?

b. How much of each chemical is on the site? What is the range of inventory (average, maximum, minimum)?

Please sign, date and return your response to:

(quest)

Dear Sir:

As you are aware, there is increasing public concern about releases of toxic or potentially toxic contaminants into the environment. This release may be the result of routine use or accidental spillage. Quantities released may be within permissible limits or in excess of safe levels. Your help is needed by the Air Pollution Authority to gather information on toxic material usage in County.

The enclosed questionnaire was developed to learn more about the usage of toxic chemicals associated with various businesses within the community. Please look over the attached list of chemicals for which we will be evaluating usage information.

Please fill out the enclosed questionnaire, keeping in mind we are trying to find an "annual" usage value. The instructions for completing each sheet are included. If additional help is needed, please contact the Air Pollution Authority at . We recognize the questionnaires are complex, but your help is essential in getting good information for the community.

Manufacturers and suppliers of solvents, resins, and other chemicals will soon be required to provide you with MATERIAL SAFETY DATA SHEETS for toxic chemicals. If you already have these available for those chemicals you use, please provide a copy when you return the survey.

Please return the survey by
be available to interested persons by
please indicate so on your questionnaire.

Survey results for should
. If you wish a survey summary,

Thank you for helping.

Sincerely,

Table 1
POTENTIALLY TOXIC COMPOUNDS

75-07-0	Acetaldehyde
107-02-8	Acrolein
107-13-1	Acrylonitrile / Propenenitrile / Vinyl Cyanide
309-00-2	Aldrin
107-05-1	Allyl Chloride
92-67-1	4-Aminodiphenyl / 4-Aminobiphenyl / P-Biphenylamine
61-82-5	3-Amino-1, 2, 4-Triazole / 5-(4-Acetaminodiphenyl)-3-Amino-5-Triazole Hydrate
7740-36-0	Antimony and Compounds
7740-38-2	Arsenic and Compounds
1332-21-4	Asbestos
71-43-2	Benzene
92-87-5	Benzidine / 4,4-Biphenyldiamine / 4,4-Diphenylenediamine
50-32-8	Benzo (a) Pyrene / 3, 4-Benzophrene / BAP
100-44-7	Benzyl Chloride
7440-41-7	Beryllium and Compounds
608-73-1	BHC / 1, 2, 3, 4, 5, 6-Hexachlorocyclohexane
58-84-9	Lindane and Isomers
111-44-4	Bis (2-Chloroethyl) Ether
542-88-1	Bis (Chloromethyl) Ether / Chloro (Chloroethoxy) Methane / BCME
111-42-2	Bis (2-Hydroxyethyl)-Dithiocarbamic Acid / Potassium salt
7440-43-9	Cadmium and Compounds
133-06-2	Captan
63-25-2	Carbaryl
56-23-5	Carbon Tetrachloride / Tetrachloromethane
76-13-1	CFC 113
133-90-4	Chloramben
12789-03-6	Chlordane
108-90-7	Chlorobenzene
510-15-6	Chlorobenzilate
67-66-3	Chloroform / Trichloromethane
107-30-2	Chloromethyl Methyl Ether / CMME
126-99-8	Chloroprene
7440-47-3	Chromium and Compounds (Hexavalent)
1319-77-3	Cresola / O,M,P-Cresol / Cresylic Acid
50-29-3	DDT/DDD
96-12-8	1, 2-Dibromo-3-Chloropropane
25321-22-6	Dichlorobenzene
91-94-1	3, 3-Dichlorobenzidine / 3,3 Dichlorobiphenyl 4,4-Diamine
94-75-7	2,4-Dichlorophenoxy Acetic Acid / 2,4-D
60-57-1	Dieldrin
117-81-7	Di (2-Ethyl Hexyl Phthalate)
79-44-7	Dimethylcarbonyl Chloride / Dimethylcarbamic Acid Chloride
57-14-7	1,1-Dimethyl Hydrazine / Asymmetric Dimethyl Hydrazine
77-78-1	Dimethyl Sulfate
SEQ-128	Dioxins
123-91-1	Dioxane / 1,4-Diethylene Dioxide / Glycole Ethylene Ether
115-29-7	Endosulfan
72-20-8	Endrin
106-89-8	Epichlorohydrin
142-59-6	Ethylenebisdithiocarbamic Acid Salts
106-93-4	Ethylene Dibromide / 1,2-Dibromoethane
107-06-2	Ethylene Dichloride / 1,2-Dichloroethane
75-21-8	Ethylene Oxide / 1,2-Eponyethane
96-45-7	Ethylene Thiourea / 2-Imidazolidinethione / 1,3-Ethylene-2-Thiourea / ETU
151-56-4	Ethyleneimine
106-89-8	Epichlorohydrin / 1-chloro-2,3-Epoxypropane
50-00-0	Formaldehyde
76-44-8	Heptachlor

APPENDIX G

EXAMPLE INDUSTRY SPECIFIC QUESTIONNAIRES

The following sample industry-specific questionnaires are examples only and are provided as a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

FOR AGENCY USE ONLY

County

Plant I.D.

SIC

SIC

SIC

TOXIC AIR CONTAMINANT EMISSIONS SURVEY FORM
General Information

1. Company and Division

2. Mailing Address

Street

Number of Employees

City

State

Zip Code

3. Person to Contact

Title

Telephone Number

4. Plant Location (including name of locality)

UTM Coordinates

5. X Coordinate

Y Coordinate

UTM Zone

Plant Elevation above M.S.L. (ft)

6. General Nature of Business

7. Annual Production (1984)

8. 1984 Production by Season:

Dec - Feb %

Jun - Aug %

Mar - May %

Sep - Nov %

9. If You Incinerate Any Wastes, Indicate:

Type of Waste

Amount Burned

(Tons / Year)

10. Name of the Owner or Responsible Official

Title

11. Signature

Date

INSTRUCTIONS FOR
"GENERAL INFORMATION" FORM

If your facility does not use or generate any of the substances listed in the table of Potentially Toxic Substances (Table 1), please complete only this General Information Form. At the bottom of the form, indicate that there are no toxics at your plant site and return the form to the DEQ.

If there are questions on any of the forms that you are unable to answer, leave those questions blank. Whenever available, include copies of the Material Safety Data Sheets when the questionnaires are returned to the DEQ.

If you have any questions, please call

1. Company and Division and Date of Submittal -- Specify the name under which the company operates and the division, if it is a subdivision of a larger company.
2. Mailing Address and Number of Employees -- Show the mailing address for the plant, not the headquarters address. List the approximate number of employees at the plant.
3. Person to Contact -- Indicate the name, title, and phone number of the person at the plant to contact concerning the information on these forms.
4. Plant Location -- If different than the mailing address, locate the plant by its actual street address.
5. UTM Coordinates, Plant Elevation -- Show the UTM X coordinate, Y coordinate, and UTM zone, if known. Show the plant elevation above mean sea level in feet.
6. General Nature of Business -- Describe the major products or services of the plant. Provide the Standard Industrial Code (SIC), if known.
7. Annual Production -- Indicate the annual production and include units for 1984.
8. Production by Season -- Show the percentage of the yearly production that takes place in each season.
9. Waste Incineration -- If any wastes are incinerated on site, indicate the type and amount of waste burned. Attach a separate sheet, if necessary.
10. Name of Owner or Responsible Official and Title -- Indicate the name and title of the plant owner or official responsible for the information supplied on these forms.
11. Signature and Date -- Include the signature of the owner or responsible official and the date the form is signed.

IF YOUR COMPANY USES, STORES OR HANDLES ANY COMPOUNDS CONTAINING CHEMICALS LISTED IN THE ATTACHED TABLE OF "POTENTIALLY TOXIC COMPOUNDS" (TABLE 1), PLEASE COMPLETE ALL APPROPRIATE ATTACHED FORMS.

STORAGE TANKS
(LIQUID FUELS, SOLVENTS, HYDROCARBONS, AND OTHER VOLATILE ORGANIC COMPOUNDS)

1. Company Name	Plant Location	Information for Calendar Year <u>1984</u>	
2. Tank Identification			
3. Type of Storage Tanks: Above/Below Ground Fixed/Moveable			
4. Name & Vapor Pressure of Material Stored (Attach Material Safety Data Sheets if Available)			
5. Density of Material Stored: (lb / gal)			
6. Tank Capacity (Gallons)			
7. Throughput (Gallons)			
8. Submerged or Splash Fill			
9. Pollution Control Equipment: Type of Control Equipment Estimated Efficiency (%)			
10. Emission Rate (Tons/Year) (Attach Calculations)			
11. Toxic Identification No. (From Table 1)			
12. Amount of Toxic in Stored Material (Vol %)			

INSTRUCTION FOR
"STORAGE TANKS" FORM

1. Company Name, Plant Location, and Information for Calendar Year -- List the company name and plant location. Note that all information should reflect calendar year 1984 conditions.
2. Tank Identification -- Assign an identifying number or name to each storage tank, which contains a Volatile Organic Compound (VOC). A VOC is any organic compound with a vapor pressure greater than 0.1 mm Hg at standard conditions (20°C and 760 mm Hg). Some VOCs are sold under trade names or common names such as Amsco, Socal, Mineral Spirits, paint thinner, Cellosolve, Naptha, DeVoe, Stoddard, Vorinal, etc. Some are sold under their actual chemical name, such as formaldehyde, perchloroethylene, alcohols, styrene, xylene, toluene, and ketones.
3. Type of Storage Tank -- Indicate whether the storage tank is above or below ground; and whether it is fixed or moveable.
4. Name and Vapor Pressure of Material Stored -- Identify the chemical or brand name for each material stored. If a brand name is used, please attach the manufacturer's Material Safety Data Sheet or other information on the material's chemical composition. For each material, list the vapor pressure, if known.
5. Density of Material Stored -- For each chemical stored, provide the density (pounds/gallon).
6. Tank Capacity -- Specify each tank's holding capacity in gallons.
7. Annual Throughput -- The number of gallons of each material which passed through each tank in 1984.
8. Submerged or Splash Fill -- Indicate whether the tank is filled using submerged or splash methods.
9. Pollution Control Equipment -- For each tank indicate type of control equipment and efficiency. Some typical types of pollution controls for tanks are vapor adsorption, incineration, refrigerated liquid scrubber, floating roof, etc.
10. Material Emission Rate -- If emission factors are known, estimate the number of tons of VOC escaping from the tank due to tank breathing and working losses. Please attach your calculations. If emission rates from this tank are not known, leave this blank. The emission rates will be calculated using published emission factors.
11. Toxic Identification Number -- Determine the chemical composition of the stored material using Material Safety Data Sheets, other information supplied by the manufacturer, or personal knowledge. If any of these substances are listed in the table of Potentially Toxic Compounds (Table 1), enter the identification number from the table. Space is left for four toxic compounds to be identified for each storage tank. Use additional columns for the tank or add additional sheets if more than four toxic compounds are contained in the stored material.
12. Amount of Toxics in Stored Material -- Show the percent by volume of the toxic in the stored material.

AH347.1A
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DRY CLEANING

1. Company Name	Plant Location	Information for Calendar Year 1984
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2. NORMAL OPERATING SCHEDULE:

_____ hrs/day _____ days/week _____ weeks/year

3. APPROXIMATE PERCENT OF SEASONAL SALES:

Dec - Feb _____ % Mar - May _____ %
Jun - Aug _____ % Sep - Nov _____ %

4. TYPE, AMOUNT, AND DENSITY OF SOLVENT CLEANER PURCHASED IN 1984:

Type/Amount	Density
Perchloroethylene _____ gallons/year	_____ lbs/gal
Stoddard Solvent _____ gallons/year	_____ lbs/gal
Other (Specify) _____ gallons/year	_____ lbs/gal
Other (Specify) _____ gallons/year	_____ lbs/gal

5. SOLVENT RECYCLING:

	Amount of Solvent Sent for Reprocessing or Disposal (Gal/Year)	Amount of Solvent Returned from Reprocessing (Gal/Year)
Perchloroethylene	_____	_____
Stoddard Solvent	_____	_____
Other (Specify)	_____	_____

6. METHOD OF DISPOSAL OF STILL BOTTOMS AND/OR SPENT FILTERS:

PLEASE ATTACH MATERIAL SAFETY DATA SHEET FOR ALL SOLVENTS USED,
EXCEPT PERCHLOROETHYLENE

INSTRUCTION FOR
"DRY CLEANING" FORM

1. Company Name, Plant Location, and Information for Calendar Year --
Specify the company name and plant location. Note that all information should reflect calendar year 1984 conditions.
2. Normal Operating Schedule -- Indicate how many hours/day, days/week and weeks/year you usually operate.
3. Approximate Percent of Seasonal Sales -- Show the approximate percent of the yearly sales that occur in each season.
4. Type, Amount and Density of Solvent -- Specify the amount of each type of solvent purchased in 1984. If any solvent other than perchloroethylene is used, please attach the Material Safety Data Sheet or other manufacturer's information on the chemical composition of the solvent.
5. Solvent Recycling -- Indicate the number of gallons in 1984 reprocessed outside your facility or disposed of by methods other than reprocessing. If applicable, specify the gallons of solvent in 1984 that were returned to the plant after reprocessing to be reused.
6. Method of Disposal of Still Bottoms and/or Spent Filters -- Describe the methods of disposal if done on site, or indicate the disposal company which removes this waste.

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USE OF WASTE OILS, RECYCLED OILS AND/OR SOLVENTS FOR FUEL

Company Name	Plant Location	Information for Calendar Year <u>1984</u>			
1. Boiler or Burner I.D.					
2. Source of Waste Oils, Recycled Oils, and/or Solvents					
3. Type and Amount of Waste Oils, Recycled Oils, and/or Solvents Burned in Unit in 1984 (Gal/Year)					
4. Toxic Materials in Oils or Solvents (Use Table 1)					
5. Type and Efficiency of Pollution Control Equipment					
6. Operating Hours Hours/Day When Using Days/Week Waste/Recycled Week/Year Oils or Solvents					

INSTRUCTIONS FOR

"USE OF WASTE OILS, RECYCLED OILS, AND/OR SOLVENTS FOR FUEL" FORM

1. Boiler or Burner I.D. -- Your identification for the boiler or burner using the waste oils, recycled oils, and/or solvents. Up to four (4) burners can be identified on each form. Please make additional copies of the form as necessary.
2. Source of Waste Oils, Recycled Oils, and/or Solvents -- Indicate the process that generated the waste oil or solvent or the supplier that delivered the recycled oil or solvent.
3. Type and Amount of Waste Oils, Recycled Oils, and/or Solvents Burned -- Enter the amount (gallons) of waste or recycled oil or solvent and the grade(s) burned in each boiler or burner.
4. Toxic Materials in Waste Oils, Recycled Oils, and/or Solvents -- If information such as Material Safety Data sheets, other manufacturer's or suppliers information, or personal knowledge exists, determine the chemical composition of the oils or solvents. If any of the substances are listed in the table of Potentially Toxic Compounds (Table 1), enter the identification number from the table. Space is left for four (4) toxic compounds from the table to be identified for each burner. Use additional columns for the operation or attach additional sheets if there are more than four (4) toxic compounds in the oils or solvent.
5. Type and Efficiency of Pollution Control Equipment -- Describe the boiler or burner control equipment, if any, and the estimated efficiency.
6. Operating Hours -- Indicate the hours that the boiler operated in 1984 when all or part of the fuel was waste/recycled oils or solvents.

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DEGREASING, CLEANING, AND SURFACE PREPARATION

1. Company Name	Plant Location	Information for Calendar Year <u>1984</u>
2. Operation Identification		
3. Type of Operation (Use Code 1)*		
4. Type of Solvent (Attach Material Safety Data Sheet)		
5. Amount of Solvent Purchased in 1984 (Gal)		
6. Amount of Solvent Sent for Reprocessing or Disposal in 1984 (Gal)		
7. Amount of Solvent Returned After Reprocessing in 1984 (Gal)		
8. Waste Solvent Disposal Method (Use Code 2)**		
9. Toxic Identification No. (From Table 1)		
10. Amount of Toxics in Solvent (Volume %)		
11. Emission Rates Based on Stack (Attach Test/Material Calculation) Balance		

* Code 1 -- Type of Operation

** Code 2 -- Disposal Method

- A. Cold Cleaner
- B. Open Top Vapor
- C. Conveyorized, Vapor
- D. Conveyorized, Non-Boiling
- E. Surface Preparation
- F. Other (Please Specify)

- A. Discharged into Sewer
- B. Reclaimed by Salvager
- C. Sent to Treatment, Storage
or Disposal Facility
- D. Incinerated
- E. Other (Please Specify)

AH347.4
August 1985

DEQ FORM NO. 18634

INSTRUCTIONS FOR
"DEGREASING, CLEANING, AND SURFACE PREPARATION" FORM

1. Company Name, Plant Location, and Calendar Year Information -- Specify the company name and location. NOTE: All information should reflect calendar year 1984 conditions.
2. Operation Identification -- Assign an identifying number or name to each operation.
3. Type of Operation -- Using Code 1 at the bottom of the form, specify the type of operation.
4. Type of Solvent -- Identify the type of solvent used for each operation (i.e., Stoddard, perchloroethylene, trichloroethylene, isopropyl alcohol, etc.). If a brand name solvent is used, please attach the manufacturer's Material Safety Data Sheets or other information on the solvent's chemical composition.
5. Amount of Solvent Purchased -- List the gallons of solvent purchased in 1984 for each operation.
6. Amount of Solvent Sent for Reprocessing or Disposal -- Indicate the number of gallons in 1984 reprocessed outside your facility or disposed of by methods other than reprocessing.
7. Amount of Solvent Returned after Reprocessing -- If applicable, specify the gallons of solvent in 1984 that were returned to the plant after reprocessing to be reused in the indicated operations.
8. Waste Solvent Disposal -- Using Code 2 below, indicate which disposal method was used in 1984 for waste solvents.
9. Toxic Identification Number -- Determine the chemical composition of the solvent using Material Safety Data Sheets, other information supplied by the manufacturer or personal knowledge. If any of the substances in the solvent are listed in the table of Potentially Toxic Compounds (Table 1), enter the identification number from the table. Space is left for four toxic compounds from the table to be identified for each operation. Use additional columns for the operation or attach additional sheets if there are more than four toxic compounds in the solvent.
10. Amount of Toxics in Solvent -- Show the percent by volume of any compound listed in the table of Potentially Toxic Compounds (Table 1) contained in the solvent.
11. Emission Rates -- If data from a stack test or material balance are available, list the expected emission rates (lb/1000 gal) for each compound from the table of Potentially Toxic Compounds (Table 1). Please attach your calculations. If no stack tests or material balances are available, leave this blank. The emission rates will be calculated using published emission factors.

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PESTICIDE USE

1. Company Name	Plant Location	Information for Calendar Year <u>1984</u>	
2. Name of Pesticide (Attach Material Safety Data Sheet)			
3. Amount of Pesticide (Lb/Yr) or (Ft ³ /Yr) or (Gal/Yr)			
4. Density of Pesticide (Lb/Gal) or (Lb/Ft ³)			
5. Name(s) of Solvents Added to Pesticide			
6. Amount of Additional Solvent (Gal/Year)			
7. Density of Additional Solvent (Lb/Gal)			

AH347.5
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DEQ FORM NO. 16839

INSTRUCTIONS FOR
"PESTICIDE USE" FORM

1. Company Name, Plant Location, Information for Calendar Year -- List the company name and plant location. Note that all information should reflect calendar year 1984 conditions.
2. Name of Pesticide -- List the brand name of pesticide(s) used during storage and transfer operations in 1984. There are up to three (3) pesticides that can be identified on this form. Please make additional copies as necessary. Attach Material Safety Data Sheet or other manufacturer's information for each pesticide.
3. Amount of Pesticide -- List the amount of each pesticide purchased in 1984. If the pesticide was purchased in a solid form, list the pounds/year; if purchased in a gaseous form, indicate cubic feet/year; if purchased in liquid form, use gallons/year. Indicate the appropriate units (lb, gal, ft³).
4. Density of Pesticide -- If the pesticide was purchased in a liquid or gaseous form, indicate the density of the pesticide, if known.
5. Name(s) of Solvents Added to Pesticide -- If any additional solvents are added to the pesticide before application, list the chemical name of the added solvent. If a brand name solvent is used, attach the Material Safety Data Sheet or other manufacturer's information on the solvent composition.
6. Amount of Additional Solvent -- List the gallons of solvent added to each type of pesticide during 1984.
7. Density of Additional Solvent -- List the density of the added solvents, in pounds per gallon, if known.

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SURFACE COATING OPERATIONS

Company Name	Plant Location	Information for Calendar Year <u>1984</u>	
1. Description of Coating Operation			
2. Type and Amount of Coating Purchased (Attach Material Safety Data Sheets)			
3. Density of Coating Purchased (Pounds/Gallon)			
4. Percentage of Solvent in Purchased Coating (Volume %)			
5. Type and Amount of Solvents Added to Coating (Attached Material Safety Data Sheets)			
6. Type and Efficiency of Control Equipment			
7. Toxic Identification Nos. (From Table 1)			
8. Emissions of Toxic Compounds			

INSTRUCTIONS FOR
"SURFACE COATING OPERATIONS" FORM

1. Description of Coating Operation -- For each coating operation at your plant, include type of application (spray, roller, brush, saturation, lamination, etc.) and assign an identification name or number. Up to three coating operations can be described on each form. Please make additional copies of the form as necessary.
2. Type and Amount of Coating Purchased -- Indicate type of coating (ink, paint, varnish, lacquer, enamel, stain, adhesive, resin, etc.) purchased and amount (gallons) used in 1984. Attach Material Safety Data Sheets from the coating manufacturer.
3. Density of Coating Purchased -- Density of the coating as received from the manufacturer in pounds per gallon.
4. Percentage of Solvent in Purchased Coating -- Percentage (by volume) of each solvent in the coating as received from the manufacturer. Some examples of solvents are: thinner, mineral spirits, cellosolve, naphtha, social, reducer, kerosene, ketones, alcohols, styrene, xylene, toluene, etc.
5. Type and Amount of Solvents Added to Coating -- Indicate the name and amount (gallons) of each solvent added to the purchased coating prior to application. If a brand name solvent is used, please attach the Material Safety Data Sheet or other manufacturer's information on the chemical composition of the solvent added to the coating.
6. Type and Efficiency of Control Equipment -- Describe any control system which reduces emissions of the solvents or coatings, and estimate the efficiency (%) of the control system. Types of control equipment include water wall, gas fired afterburner, etc.
7. Toxic Identification Number -- Determine the chemical composition of the solvent using Material Safety Data Sheets, other information supplied by the manufacturer or personal knowledge. If any of the substances in the solvent are listed in the table of Potentially Toxic Compounds (Table 1), enter the identification number from the table. Space is left for four toxic compounds from the table to be identified for each operation. Use additional columns for the operation or attach additional sheets if there are more than four toxic compounds in the solvent.
8. Emission of Toxic Compounds -- For any compounds listed in the table of Potentially Toxic Compounds (Table 1) which are released during the coating operation or subsequent curing, calculate the amount (in pounds) and attach calculations. If emission rates are unknown, leave this section blank. Emission rates will be calculated using published emission factors or material balances.

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INSTRUCTIONS FOR
"PROCESSING AND MANUFACTURING OPERATIONS" FORM

1. Company Name, Plant Location, and Information for Calendar Year -- Specify the company name and plant location. NOTE: All information should be calendar year 1984 conditions.
2. Process or Operation Identification -- Assign an identifying name or number to each process or operation which uses a compound listed in the table of Potentially Toxic Compounds (Table 1). Two processes or operations can be described on each form. Please make additional copies of the form as needed.
3. Maximum Capacity -- List the maximum production rate for the process or operation and indicate units.
4. Toxic Identification Number -- Determine the chemical composition of material used as input to the operation or process from Material Safety Data Sheets, other manufacturer's information, or personal knowledge. If any of these substances are listed in the attached table of Potentially Toxic Compounds (Table 1), enter the identification number from the table. Attach Material Safety Data Sheets identifying the toxic compounds, if available. There is space for four toxic compounds to be identified for each operation or process. Use additional columns or add additional sheets if more than four toxic compounds are involved in a process or operation.
5. Toxics in Feed Input -- Show the identification number (from 4 above) and the amount of each toxic compound in pounds per year contained in the process or operation feed input.
6. Toxics in Product Output -- Indicate the identification number and the amount of the toxic that is incorporated into the product.
7. Toxics in Byproducts -- Indicate the identification number and estimate the amount (pounds per year) of any toxic compound listed in the table of Potentially Toxic Compounds (Table 1) that is not incorporated in the product. (For example: A compound contained in a waste material.) Indicate the method of disposal or final use of the toxic containing material.
8. Toxics in Intermediate Products -- Identify any toxic from Table 1 formed in intermediate steps of the process which has the potential to be emitted through storage, transfer or accidental release. These intermediate products may be completely or partially consumed in the manufacture of the final product. Indicate the quantity formed in pounds per year.
9. Toxic Emission Rates -- If data from material balances or stack tests are available, show the expected emission rates and units for any compound listed in Table 1. Please attach your calculations. If no material balance information or stack tests are available leave this blank. The emission rates will be calculated from published emission factors.
10. Stack or Vent Data -- For the vent or stack for each process, provide the indicated parameters. The height of the vent or stack is measured from ground level; the exit area is the cross-sectional area of the opening in square feet; the flow rate is in actual (not standard) cubic feet per minute.
11. Pollution Control Equipment -- If present, identify the type of pollution control equipment on the operation or process and the efficiency with which it collects the toxics emitted.
12. Operating Hours -- Indicate the hours per day, days per week, and weeks per year each process or operation normally functioned in 1984.

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TOXICS IN PROCESSING AND MANUFACTURING OPERATIONS

1. Company Name		Plant Location	Information for Calendar Year 1984
2. Process or Operation Identification			
3. Maximum Capacity			
4. Toxic Identification Numbers (From Table 1)			
5. Toxics in Feed Input (1984 -- Lbs/Yr)			
6. Toxics in Product Output (1984 -- Lbs/Yr)			
7. Toxics in Byproducts: Amount (Lbs/Yr) End Use			
8. Toxics in Intermediate Products Amount (Lbs/Yr)			
9. Toxic Emission Rates (Lbs/Yr)			
Stack or Vent Data	10. Height (Ft)		
	Exit Area (Ft ²)		
	Exit Velocity (Ft/Min)		
	Exit Volume (ACFM)		
	Exit Temp. (°F)		
	Common Stack Points		
11. Pollution Control Equipment	Type		
	% Efficiency		
	Hours/Day		
12. Operating Hours - 1984	Days/Week		
	Weeks/Year		

INSTRUCTIONS FOR
"PROCESSING AND MANUFACTURING OPERATIONS USING
VOLATILE ORGANIC COMPOUNDS" FORM

1. Company Name, Plant Location, and Information for Calendar Year -- Specify the company name and plant location. NOTE: All information should be for calendar year 1984 conditions.
2. Process or Operation Identification -- Assign an identifying name or number to each process or operation which uses a Volatile Organic Compound (VOC). A VOC is any organic compound which has a vapor pressure of 0.1 mm Hg at standard conditions (20°C and 760 mm Hg). Some VOCs are sold under trade names such as Socal, Amoco, Stoddard, and Cellosolve; common names such as paint thinner, lacquer and resin; or chemical names such as xylene, formaldehyde, methyl ethyl ketone, perchloroethylene, and isopropyl alcohol. NOTE: If any compound listed in the table of Potentially Toxic Compounds (Table 1) is contained in the VOC, complete the "Toxics in Processing and Manufacturing Operations" form in addition to this form. Up to three (3) processes or operations can be described on each form. Please make additional copies of the form as necessary.
3. Maximum Capacity -- List the product and the maximum production rate for the process or operation and indicate units.
4. VOC Description -- Identify all Volatile Organic Compounds used as input to the operation or process from Material Safety Data Sheets, other manufacturer's information, or personal knowledge. Use additional columns or add additional sheets if more than one VOC is involved in a process or operation.
5. Amount of VOCs in Feed Input -- Show the amount of each VOC in tons per year in the process or operation feed input.
6. Amount of VOCs in Product Output -- Indicate the amount of each VOC in tons/year that is incorporated into the product.
7. VOCs in Byproducts -- Estimate the amount of each Volatile Organic Compound in tons per year that is contained in any byproduct or waste. Indicate the method of disposal of any waste.
8. VOC Emission Rates -- If data from material balances or stack tests are available, show the expected emission rates and units. Please attach any calculations you have made. If no material balance information or stack tests are available leave this blank. The emission rates will be calculated from published emission factors.
9. Stack or Vent Data -- For the vent or stack for each process, provide the indicated parameters. The height of the vent or stack is measured from ground level; the exit area is the cross-sectional area of the opening in square feet; the flow rate is in actual (not standard) cubic feet per minute.
10. Pollution Control Equipment -- If present, identify the type of pollution control equipment on the operation or process and the efficiency with which it collects the VOCs emitted.
11. Operating Hours -- Indicate the hours per day, days per week, and weeks per year each process or operation functioned in 1984.

AH347.11
August 1985

PROCESSING AND MANUFACTURING OPERATIONS USING VOLATILE ORGANIC COMPOUNDS

1. Company Name		Plant Location	Information for Calendar Year <u>1984</u>	
2. Process or Operation Identification				
3. Maximum Capacity				
4. VOC Description and Vapor Pressure (Attach Material Safety Data Sheets)				
5. Amount of VOCs in Feed Input (1984 -- Tons/Yr)				
6. Amount of VOCs in Product Output (1984 -- Tons/Yr)				
7. VOCs in Byproducts Amount (Tons/Yr) Method of Disposal				
8. VOC Emission Rates				
9. Stack or Vent Data	Height	(Ft)		
	Exit Area	(Ft ²)		
	Exit Velocity	(Ft/Min)		
	Exit Volume	(ACFM)		
	Exit Temp.	(°F)		
	Common Stack Points			
10. Pollution Control Equipment	Type			
	% Efficiency			
11. Operating Hours - 1984	Hours/Day			
	Days/Week			
	Weeks/Year			

EXAMPLE 2 - INDUSTRY SPECIFIC QUESTIONNAIRE

Dear Sir or Madam:

Public concern about exposure to toxic substances has prompted the U.S. Environmental Protection Agency to develop a national strategy for controlling routine emissions for air toxic contaminants. This strategy includes a directive to states and local control agencies to examine their own needs for controlling and regulating emissions of toxic air contaminants. In response to this directive, the County Bureau of Air Pollution Control is conducting an inventory of toxic air contaminants.

As part of this inventory, the Department requests that you complete the attached questionnaires for operators of facilities which have the potential to emit toxic substances in County. The attached questionnaires are a follow-up to questionnaires that were originally sent out by the District. Whether you have or have not received an earlier questionnaire, please complete the accompanying forms.

The number of types of questionnaires mailed were based on a general classification of your facility. If some of the forms or specific questions do not apply or no information is available, please indicate that in your response. Your cooperation in completing the questionnaires as comprehensively as possible will be appreciated. If necessary, please make copies of forms in order to provide information on all activities at your facility.

has been contracted to identify the potential sources of toxic air contaminants, prepare questionnaires, and compile quantitative emission estimates. Please return all completed forms no later than to

Please clearly and specifically identify any information you would consider confidential and give a brief explanation for this designation. Information identified as confidential will be treated as such by the Department and contractor personnel.

General questions regarding the inventory purpose and process can be directed to ... and
Technical questions regarding proper completion of the forms or emission to ...

COUNTY HEALTH DEPARTMENT

ASBESTOS PRODUCTS QUESTIONNAIRE

According to the _____ Directory of Manufactures, your facility manufactures products containing asbestos. If this classification is incorrect, please check here and return the questionnaire. _____

If your facility manufactures products that contain asbestos, please complete the remainder of this questionnaire.

1. What are the principle products of this facility? _____

2. In the space provided below, please record the quantity vraw materials and corresponding quantities used to produce the products listed above.

<u>Raw Material</u>	<u>Quantity Used (lbs.)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If trade names are listed above, please provide material safety data sheets or information on the composition of these chemical compounds.

3. Please describe any ventilation systems used to reduce worker exposure to hazardous air contaminants.

Are vented emissions controlled in any way to reduce the quantity of air pollutants released to the atmosphere? ☐ Yes ☐ No

If yes, please provide the following information for each air pollution control device in use.

<u>Production Operation</u>	<u>Control Device</u>	<u>Pollutant Controlled</u>	<u>Efficiency¹</u>	<u>Basis For Efficiency²</u>

- 1) Efficiencies should be reported in terms of weight percent removal of the pollutant controlled.
- 2) Describe the basis for estimating efficiency (i.e., source test, vendor guaranty, etc.)

4. If known, please record the particulate emissions from each production operation and record the corresponding weight percent of asbestos in these emissions.

<u>Production Operation</u>	<u>Particulate Emissions (lb/yr)</u>	<u>Weight Percent of Asbestos</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

HEALTH DEPARTMENT

TAPE COATING QUESTIONNAIRE

1. Please provide as an attachment a block diagram(s) illustrating the following production operations:

- o raw materials storage and handling;
- o coating formulation and application; and
- o tape baking.

This diagram should quantify the materials entering and leaving the system in addition to storage and feed equipment, mixing tanks, and all air pollution control devices.

2. How much tape was produced in 19__ lbs.

What is the typical chromium content of this tape? ____ wt. %.

3. In the space provided below, please record the raw materials and corresponding quantities used to produce magnetic tape.

<u>Raw Material</u>	<u>Quantity Used (lbs.)</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If trade names are listed above, please provide material safety data sheets or information on the composition of these chemical compounds.

4. Please provide the following information for each air pollution control device used to control emissions from the tape production operations.

<u>Production Operation</u>	<u>Control Device</u>	<u>Pollutant Controlled</u>	<u>Efficiency¹</u>	<u>Basis For Efficiency²</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

- 1) Efficiencies should be reported in terms of weight percent removal of the pollutant controlled.
- 2) Describe the basis for estimating efficiency (i.e., source test, vendor guaranty, etc.)

COUNTY HEALTH DEPARTMENT
ELECTROPLATING QUESTIONNAIRE

PREFACE

Purpose

The purpose of this questionnaire is to gather information and data on the emission of chromium, nickel, and cadmium from electroplating operations.

General Information

The first page of the questionnaire is designed to identify the type(s) of electroplating in use. Please complete this page as accurately as possible.

Operating Characteristics

Please complete this section separately for each tank in use. Three copies of this section are provided. If there are more than three tanks in use, please make additional copies as necessary.

COUNTY HEALTH DEPARTMENT
ELECTROPLATING QUESTIONNAIRE

GENERAL INFORMATION

1. Is chrome plating performed at this facility? _____ Yes _____ No

If yes, what type of plating is performed?

Decorative _____

Hard Plating _____

Chromic Acid Anodizing _____

2. Is nickel plating performed at this facility? _____ Yes _____ No

3. Is cadmium plating performed at this facility? _____ Yes _____ No

TANK OPERATING CHARACTERISTICS¹

Type of plating operation: _____²

Plating Tank #: _____ (1, 2, 3, etc.).³

Operating Schedule: _____ Hr/day _____ day/yr

Surface area of plating tank: _____ square feet

Typical range of total current: _____ ampres.

Type of pollution control equipment: _____

Estimated control efficiency: _____⁴

Basis for removal efficiency: _____⁵

¹ Complete this page separately for each electroplating tank in use. Make additional copies of this page if necessary.

² Please use the descriptors provided under the general information section on the previous page.

³ Please number each tank in use starting with the #1.

⁴ Efficiency should be expressed on a weight removal basis.

⁵ Describe the basis for estimating efficiency (i.e., source test, vendor guaranty, etc.).

COUNTY HEALTH DEPARTMENT

LEAD BATTERY MANUFACTURING QUESTIONNAIRE

GENERAL INFORMATION

1. List the types of batteries manufactured at this facility:

Automotive: _____ Industrial: _____

Other (describe): _____

2. Provide the following production data for each battery type listed in Question 1:

Automotive battery production: _____ $\frac{\text{Batteries}}{\text{Year}}$ _____ $\frac{\text{Batteries}}{\text{Day}}$

Industrial battery production: _____ $\frac{\text{Batteries}}{\text{Year}}$ _____ $\frac{\text{Batteries}}{\text{Day}}$

Other battery production: _____ $\frac{\text{Batteries}}{\text{Year}}$ _____ $\frac{\text{Batteries}}{\text{Day}}$

3. List the average or typical lead content for each battery type:

Automotive batteries: _____ lb. lead/battery

Industrial batteries: _____ lb. lead/battery

Other batteries: _____ lb. lead/battery

Note: Lead content refers to the total quantity of lead in the battery including elemental lead in battery grids, terminals, and lead compounds in the active material of battery plates.

4. List the percent of each battery type manufactured using open formation and closed formation processes:

Automotive batteries: _____ % Open Formation _____ % Closed Formation

Industrial batteries: _____ % Open Formation _____ % Closed Formation

Other batteries: _____ % Open Formation _____ % Closed Formation

PROCESS INFORMATION

A. GRID CASTING

1. For each battery type, list the percent lead and the percent of alloying metals contained in the battery grids:

Automotive batteries: _____ % Lead

_____ % _____ (List metal)

_____ % _____ (List metal)

Industrial batteries: _____ % Lead

_____ % _____ (List metal)

_____ % _____ (List metal)

Other batteries: _____ % Lead

_____ % _____ (List metal)

_____ % _____ (List metal)

B. LEAD OXIDE PRODUCTION

1. Is lead oxide produced on-site? _____ Yes _____ No
2. For on-site lead oxide production, identify the process used to produce the lead oxide :

Barton _____ Ball Mill _____

Other _____

3. If fabric filters are used to control air emissions from on-site lead oxide production, list the air to cloth ratio (4:1, 3:1, or 2:1) of the filter:

Air to cloth ratio: _____

C. LEAD RECLAIM

1. Is a lead reclaim furnace used at this facility? ____ Yes ____ No
2. If a lead reclaim furnace is used, approximately what percent of the total lead processed at the facility is reclaimed in the furnace? ____ %

D. FORMATION

1. Provide the following information for closed formation processes:

Automotive batteries: Length of charging cycle ____ Hours

Charging rate ____ Amps

Industrial batteries: Length of charging cycle ____ Hours

Charging Rate ____ Amps

Other batteries: Length of charging cycle ____ Hours

Charging cycle ____ Amps

E. AIR POLLUTION CONTROL EQUIPMENT

1. Provide the following information for each air pollution control device used at the facility:

<u>Control Device</u>	<u>Process¹ Controlled</u>	<u>Pollutant Controlled</u>	<u>Efficiency²</u>	<u>Basis for Efficiency³</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

¹ Process controlled refers to manufacturing processes such as grid casting, pasting, formation, etc.

² Report efficiency in weight percent removal of controlled parameter.

³ Describe the basis for estimating efficiency (i.e., source test, vendor guaranty, etc.).

5. What is the volume of cooling water used (i.e., fresh water added to the system)? _____ gallons/hr

6. Is the cooling water recycled? _____ Yes _____ No

If yes, how much cooling water is removed through blowdown?

_____ gallons/hr

What is the quantity of water recycled? _____ gallons/hr

COUNTY HEALTH DEPARTMENT
COOLING TOWER QUESTIONNAIRE

1. Is a cooling tower (or towers) used at this facility? ____ Yes ____ No

If a cooling tower (or towers) is not used, complete only question one and return this questionnaire. If a cooling tower is used, please answer the remaining questions.

2. What type of cooling tower(s) is used?

____ Mechanical draft evaporative cooling tower

____ Natural draft evaporative cooling tower

____ Other, please describe: _____

3. In the space provided below, please list the chemical additives used in the cooling tower. If known, also record the quantity of each chemical used and/or its concentration in the cooling water.

<u>Chemical Additive</u>	<u>Amount Used (lb/yr)</u>	<u>Concentration in the Cooling Water (ppm)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

If you have recorded trade names in the space above, please submit the material safety data sheets for these chemical compounds.

4. If a cooling tower is used in conjunction with electrical power generation, what is the thermal energy input to the power plant:

_____ BTU/hr

COUNTY HEALTH DEPARTMENT

SEMICONDUCTOR MANUFACTURING QUESTIONNAIRE

1. Are semiconductors manufactured at this facility? ☐ Yes ☐ No

If semiconductors are not manufactured, complete only question one and return this questionnaire. If semiconductors are manufactured, please answer the remaining questions.

2. In the space provided below, please record the volume of organic solvents that are both purchased and disposed (or recycled):

Solvent	Quantity Purchased (gals/yr)	Quantity Disposed (or Recycled) (gals/yr)
Acetone		
Benzene		
n-Butyl Acetate		
Cellosolve (glycol ethers)		
Chlorobenzene		
Ethanol		
Ethylene Glycol		
Freons		
Hexamethyldisilazane (HMDS)		
Isopropanol		
Methanol		
Methyl Ethyl Ketone (MEK)		
Methylene Chloride		
Petroleum Distillates		
Phenol		
Tetrachloroethylene		
Toluene		
1,1,1-Trichloroethane		
Trichloroethylene		
Xylene		

12-month period for information provided above : _____

3. If cellosolve is used, please identify the specific derivative that is used (e.g. glycol monobutyl ether):

<u>Derivative</u>	<u>Quantity Purchased (gals/yr)</u>	<u>Quantity Disposed (or Recycled) (gals/yr)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. In the space provided below, please record the volume of dopant gases that are used on a yearly basis.

<u>Gas</u>	<u>Volume Used (m3/yr)</u>	<u>Concentration1 (Volume Percent)</u>
Arsine	_____	_____
Diborane	_____	_____
Phosphine	_____	_____
Silane	_____	_____

12-month period for which data is reported: _____.

5. Please indicate which photo lithographic process is used:

_____ Positive photoresist

_____ Negative photoresist

6. How many hours per year does the photoresist equipment operate?

_____ Hrs.

- 1) For each volume reported, indicate what percent of that volume is actually the gas of concern. For example, 100 cubic meters of a gas mixture containing 50 percent (by volume) arsine was used one year. Record 100 under the volume used column for arsine and 50 percent under the concentration column.

COUNTY HEALTH DEPARTMENT

SURFACE COATING MANUFACTURING SURVEY

1. Please provide as an attachment, a block diagram of the surface coating manufacturing process showing materials storage equipment, feed equipment, mixing tanks, and all air pollution control devices. This diagram should show all of the materials entering and leaving the system.

Please record the 19 ⁵ production rate for this facility in the space provided below:

Paint: _____ lbs

Varnish: _____ lbs

Bodying Oil: _____ lbs

Oleoresins: _____ lbs

Alkyd: _____ lbs

Acrylic: _____ lbs

Ink: _____ lbs

2. Please complete Table 1 for each pigment used by the facility.
3. Please complete Table 2 separately for each product produced at your facility. Make multiple copies of this table as necessary.
4. Please complete Table 3 for each solvent used in tank cleaning operations.
5. Where available, please submit material safety data sheets for the pigments and solvents identified in Tables 1 through 3.
6. Describe tank cleaning procedures: _____

7. List the quantity of waste generated from tank cleaning and describe the treatment/disposal practices for this waste: _____

8. Please provide the following information for each air pollution control device used at the facility:

<u>Production Operation</u>	<u>Control Device</u>	<u>Pollutant Controlled</u>	<u>Efficiency</u> ¹	<u>Basis for Efficiency</u> ²
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

¹ Efficiencies should be reported in terms of weight percent removal of the pollutant controlled.

² Describe the basis for estimating efficiency (i.e., source test, vendor guaranty, etc.).

COUNTY HEALTH DEPARTMENT

ETHYLENE OXIDE STERILIZATION QUESTIONNAIRE

PREFACE

Purpose

The purpose of this questionnaire is to gather information that can be used to estimate air emissions of ethylene oxide from hospital sterilization and surgical equipment manufacturing activities.

General Instructions

In order to accurately estimate ethylene oxide emissions from hospitals, we need information relating to the entire hospital (questions 1 and 2) as well as specific information on each ethylene oxide sterilizer used (questions 3 through 11). Please make and fill out a separate copy of questions 3 through 11 for each ethylene oxide sterilizer at your facility.

COUNTY HEALTH DEPARTMENT

ETHYLENE OXIDE STERILIZATION QUESTIONNAIRE

1. Is ethylene oxide used as a sterilant at your facility? ☐ Yes ☐ No

If ethylene oxide is not used, please answer question 1(a) and return this questionnaire. If ethylene oxide is used, please answer the remaining questions.

- 1 (a). Are the materials from your facility sterilized with ethylene oxide at a contract sterilization facility? ☐ Yes ☐ No

If yes, please name the facility which does your ethylene oxide sterilization: _____

2. If this is a hospital, how many beds are there in your hospital (approximately)? _____

As compared to other hospitals, do any conditions exist at your hospital which may lead to a higher or lower than average use of materials sterilized with ethylene oxide (such as an above average amount of surgery)?

☐ Yes ☐ No

If yes, please explain: _____

If more than one ethylene oxide sterilizer is used at your facility, please make a separate copy of the remaining questions for each sterilizer used.

3. Sterilizer number: _____ (1, 2, 3...)
type: _____ (table-top or built-in)
4. Sterilizer manufacturer and model: _____

5. Sterilizer volume: _____ Cubic feet: _____
6. Average number of sterilization cycles per day (approximate): _____
7. Type of sterilant gas mixture used:
_____ 12% ethylene oxide and 88% freon-12 by weight
_____ 100% ethylene oxide
_____ 10% ethylene oxide and 90% carbon dioxide by weight
_____ other. Please indicate the sterilant gas mixture used:

8. Size of container sterilant gas is received in:
_____ 70 lb net weight cylinder
_____ 75 lb net weight cylinder
_____ 160 lb net weight cylinder
_____ 67 gram cartridge (3M Sterigas® 2-67)
_____ 100 gram cartridge (3M Sterigas® 4-100)
_____ 134 gram cartridge (3M Sterigas® 4-134)
_____ other. Please indicate size: _____

9. Please indicate the number of sterilant containers used:

monthly: _____, and

annually: _____.

10. Is a non-recirculating water-sealed pump used to evacuate the sterilization chamber?

_____ (yes/no)

If no, please describe the type of pump used for sterilization chamber evacuation: _____

11. Are any emission control devices used to reduce ethylene oxide emissions to the outdoor air?

_____ (yes/no)

If yes, please indicate the type and efficiency of control:

_____ scrubber

_____ catalytic filter

_____ carbon adsorption columns

_____ other. Please describe the control device used: _____

Efficiency1: _____%

Basis for Efficiency2: _____

1 Efficiencies should be expressed on a weight removal basis.

2 Describe the basis for the efficiency estimate (i.e., source test, vendor guaranty, etc.).

EXAMPLE 4 - INDUSTRY SPECIFIC QUESTIONNAIRE

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY

AIR POLLUTANT EMISSIONS INVENTORY REPORT
FOR CALENDAR YEAR 1984

DIRECTIONS: PLEASE TYPE OR PRINT ALL INFORMATION REQUESTED.

GENERAL INFORMATION

Facility Name _____

Facility Location _____
(street)

(city)

(state) . (county)

Facility Mailing Address _____
(street or box number)

(city)

(state) (zip code)

Telephone Number (_ _ _) - _ _ _ - _ _ _

Property Area _ _ _ . _ acres (report to nearest tenth)

Number of Employees _____

Principal Product or Service Provided _____

Name of Individual Responsible for Content of Forms _____

(signature of company officer and title)

Return to:

PQ-00254-06

POLLUTION CONTROL AGENCY: DIVISION OF AIR QUALITY
ANNUAL STACK OPERATING INFORMATION

I. COMPLETE THE FOLLOWING FOR EACH STACK OR EMISSION EXHAUST VENT:

1. Company stack ID number _____
2. Stack height _____ feet above ground level
3. Stack exit diameter _____ feet, inside diameter
4. Stack gas exit temperature _____ degrees Fahrenheit, rated load
5. Stack gas flow rate _____ ACFM, rated load
6. Stack gas exit velocity _____ feet/minute at exit, rated load
7. Northing UTM Coordinates _____ kilometers
Easting UTM Coordinates _____ kilometers
Use topographical map if known, otherwise please leave blank.
8. Emissions and controls for this stack:

	CONTROL		EQUIPMENT	Method	Estimated	Method
	Primary	Secondary	Efficiency	Used to	Annual	Used to
	Type	Type	(Percent)	Determine	Emissions	Determine
				Efficiency	(Tons/Year)	Emissions
Particulates (Total)	_____	_____	_____	_____	_____	_____
Particulates (less than 10 microns)	_____	_____	_____	_____	_____	_____
Sulfur oxides	_____	_____	_____	_____	_____	_____
Nitrogen oxides	_____	_____	_____	_____	_____	_____
Carbon monoxide	_____	_____	_____	_____	_____	_____
Volatile Organic Compounds	_____	_____	_____	_____	_____	_____
Lead	_____	_____	_____	_____	_____	_____
(Other)	_____	_____	_____	_____	_____	_____

PQ-00254-06

POLLUTION CONTROL AGENCY: DIVISION OF AIR QUALITY
ANNUAL BOILER OPERATION INFORMATION

II. COMPLETE THE FOLLOWING FOR EACH BOILER; TURBINE; OR DIESEL ENGINE:

1. Company boiler ID number _____
2. Type of combustion unit: ☐ Boiler ☐ Diesel Engine ☐ Turbine
3. Stack number (Section I) this boiler vents through _____
4. Average actual working schedule:
_____ hours/day; _____ days/week; _____ weeks/year
5. Average boiler capacity factor for year _____ :
_____ percent of total capacity when operating
6. Percent annual BTU consumption of fuel (should total 100%):
_____ Dec.' - Feb.' ; _____ Mar.' - May ' ;
_____ Jun.' - Aug.' ; _____ Sep.' - Nov.'
7. Rated design capacity (give both):
_____ million BTU/hour heat input
_____ 1000 lbs steam/hour output
8. Percentage of fuel used for space heating _____
9. Primary type of fuel _____
 . Total amount burned/year and units _____
 . Firing method _____
 . Usual firing rate and units _____
 . Maximum firing rate and units _____
 . Percent sulfur content _____
 . Percent ash content _____
 . Heat content _____ BTU/_____ (please specify)
 . Percent seasonal fuel usage (should total 100%):
 _____ Dec.' - Feb.' ; _____ Mar.' - May ' ;
 _____ Jun.' - Aug.' ; _____ Sep.' - Nov.'
10. Secondary type of fuel _____
 . Total amount burned/year and units _____
 . Firing method _____
 . Usual firing rate and units _____
 . Maximum firing rate and units _____
 . Percent sulfur content _____
 . Percent ash content _____
 . Heat content _____ BTU/_____ (please specify)
 . Percent seasonal fuel usage (should total 100%):
 _____ Dec.' - Feb.' ; _____ Mar.' - May ' ;
 _____ Jun.' - Aug.' ; _____ Sep.' - Nov.'
11. If you use more than two types of fuel, please check here _____
 and list the corresponding information for each additional
 fuel on the back of this page.
12. Are you burning waste materials (used oil, solvents, solids, etc.)?
 _____ Yes _____ No (Check One) If so, itemize and indicate
 quantities (with units) of waste materials being burned:

PQ-00254-06

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
ANNUAL PROCESS OPERATING INFORMATION

III. COMPLETE THE FOLLOWING FOR EACH PROCESS:

1. Company process ID number _____
2. Stack number this process vents through _____
(from Section I)
3. Type of process causing these emissions _____

4. Type of equipment used during this process _____
5. Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year
6. Percent annual throughput (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
7. Type of raw materials used _____

8. Quantity of raw materials used/year (specify units)

9. Quantity of products produced/year (specify units)

10. Process auxiliary fuels (if present):
Type of process auxiliary fuel: _____
Total amount burned/year: _____
Firing method: _____
Usual firing rate and units: _____
Maximum firing rate and units: _____
Percent sulfur content: ____-____
Percent ash content: ____-____
Heat content: ____-____ BTU/____ (please specify)
Percent seasonal fuel usage (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
11. If more than one type of auxiliary fuel is used, list the
corresponding information for the additional fuels used
on the back of this page.

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POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
ANNUAL INCINERATOR OPERATING INFORMATION

IV. COMPLETE THE FOLLOWING FOR EACH INCINERATOR:

1. Company incinerator ID number _____
2. Manufacturer's name and model number _____
3. Stack number this incinerator vents through _____
(from Section I)
4. Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year
5. Percent annual throughput (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
6. Rated design capacity _____ lbs/hour
7. Type(s) of waste burned (I,II,.....VI) _____
8. Annual quantity of waste burned _____ tons
9. Number of primary burners _____
at an input of _____ BTU/hour/burner
10. Number of secondary burners _____
at an input of _____ BTU/hour/burner
11. Type of auxiliary fuel used _____
Total amount burned/year and units _____
Firing method _____
Usual firing rate and units _____
Maximum firing rate and units _____
Sulfur content of this fuel ____ percent
Ash content of this fuel ____ percent
Heat content ____ BTU/____ (please specify)
Percent seasonal fuel usage (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
12. Are you burning any other waste material? _____
If so, itemize and indicate quantities (with units) of
other waste materials being burned:

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
ANNUAL ASPHALT OPERATION INFORMATION

II. COMPLETE THE FOLLOWING FOR EACH HOT MIX ASPHALT UNIT:

1. Company asphalt unit ID number _____
2. Stack number this asphalt unit vents through _____
(from previous page, Section I)
3. Type and manufacturer of this unit _____

4. Date manufactured _____
Date purchased by present owner _____
5. Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year
6. Percent annual throughput (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
7. Type and amount of raw materials used _____

8. Amount of hot mix asphalt produced during 1984 _____ tons
9. Is this a conventional or drum mix unit? _____
10. Do you do any recycling? _____ If so, how much of your raw
material is from recycled asphalt? _____ percent
11. Type of fuel (or waste oil) burned _____
.Total amount burned/year and units _____
.Percent sulfur content ____
.Percent ash content ____
.Heat content ____ BTU/_____ (please specify)
.Usual firing rate and units _____
.Maximum firing rate and units _____
.Percent seasonal fuel usage (should total 100%):
____ Dec.' - Feb.' ; ____ Mar.' - May ' ;
____ Jun.' - Aug.' ; ____ Sep.' - Nov.' ;
12. If you use more than one type of fuel, please check here _____
and list the corresponding information for each additional
fuel on the back of this page.

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
ANNUAL GRAIN ELEVATOR OPERATION INFORMATION

A. COMPLETE THE FOLLOWING FOR EACH ELEVATOR:

1. Type of elevator: Country Terminal Export

Storage capacity of elevator bin(s)

Average actual working schedule:

 hours/day; days/week; weeks/year

Percent annual throughput (should total 100%):

 Dec.' - Feb.' ; Mar.' - May ' ;
 Jun.' - Aug.' ; Sep.' - Nov.'

2. Amount of each grain (or grain product) received (tons/year):

Corn	<u> </u>	Wheat	<u> </u>
Soybeans	<u> </u>	Barley	<u> </u>
Oats	<u> </u>	Sunflowers	<u> </u>
Soybean Meal	<u> </u>	Other (specify)	<u> </u>

3. Total grain handled (tons/year):

Received by: Truck
Rail
Barge

Headhouse
Tripper
Removal from bin
Cleaned
Dried

Shipped by: Truck
Rail
Barge

4. Emissions and controls:

Type of Control Equipment	Elevator Process Controlled	Exhaust Vent Ht (Feet Above Ground)	Control Efficiency (Percent)	Method Used to Determine Efficiency	Estimated Annual Particulate Emissions (Tons/Year)	Method Used to Determine Emissions
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Continue list on back of page if necessary.

PQ-00254-06

POLLUTION CONTROL AGENCY
DIVISION OF AIR QUALITY
ANNUAL GRAIN MILL OPERATION INFORMATION

B. COMPLETE THE FOLLOWING FOR EACH MILL/BREWERY:

1. Type of mill/brewery _____

Storage capacity of mill bin(s) _____

Average actual working schedule:

_____ hours/day; _____ days/week; _____ weeks/year

Percent annual throughput (should total 100%):

_____ Dec.' - Feb.' ; _____ Mar.' - May ' ;
_____ Jun.' - Aug.' ; _____ Sep.' - Nov.' ;

2. Total grain processed:

Feed manufactured: Bagged _____ tons
Bulk shipped _____ tons

Soybean processing: Oil _____
(specify units) Meal _____

Wheat milled: Flour bagged _____ tons
Flour bulk shipped _____ tons
Mill feed shipped _____ tons

Other milled: Bagged _____ tons
(please specify) Bulk shipped _____ tons
Mill feed shipped _____ tons

3. Emissions and controls:

Type of Control Equipment	Milling Process Controlled	Exhaust Vent Ht (Feet Above Ground)	Control Efficiency (Percent)	Method Used to Determine Efficiency	Estimated Annual Particulate Emissions (Tons/Year)	Method Used to Determine Emissions
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

Continue list on back of page if necessary.

PQ-00254-06

POLLUTION CONTROL AGENCY: DIVISION OF AIR QUALITY
PETROLEUM PRODUCT STORAGE TANKS

COMPLETE THE FOLLOWING SECTION FOR EACH STORAGE TANK WITHIN YOUR FACILITY. PLEASE
NOTE: THREE TANKS CAN BE ENTERED ON THIS PAGE. PHOTOCOPY ADDITIONAL PAGES AS NEEDED.

1. Tank ID number _____
 Tank type _____
 Average actual working schedule:
 24 hours/day; 7 days/week; _____ weeks/year
 Product stored _____
 Reid vapor pressure _____ PSI
 Average true vapor pressure _____ PSI
 Tank capacity (specify units) _____
 Tank throughput (specify units) _____
 Percent annual throughput (should total 100%):
 _____ Dec.' - Feb.' ; _____ Mar.' - May' ;
 _____ Jun.' - Aug.' ; _____ Sep.' - Nov.' ;
 Type of vapor control equipment:
 Control efficiency _____ percent
 How was this efficiency determined _____
 Estimated annual VOC emissions _____ tons/year after controls
 How were these emissions determined _____
2. Tank ID number _____
 Tank type _____
 Average actual working schedule:
 24 hours/day; 7 days/week; _____ weeks/year
 Product stored _____
 Reid vapor pressure _____ PSI
 Average true vapor pressure _____ PSI
 Tank capacity (specify units) _____
 Tank throughput (specify units) _____
 Percent annual throughput (should total 100%):
 _____ Dec.' - Feb.' ; _____ Mar.' - May' ;
 _____ Jun.' - Aug.' ; _____ Sep.' - Nov.' ;
 Type of vapor control equipment:
 Control efficiency _____ percent
 How was this efficiency determined _____
 Estimated annual VOC emissions _____ tons/year after controls
 How were these emissions determined _____
3. Tank ID number _____
 Tank type _____
 Average actual working schedule:
 24 hours/day; 7 days/week; _____ weeks/year
 Product stored _____
 Reid vapor pressure _____ PSI
 Average true vapor pressure _____ PSI
 Tank capacity (specify units) _____
 Tank throughput (specify units) _____
 Percent annual throughput (should total 100%):
 _____ Dec.' - Feb.' ; _____ Mar.' - May' ;
 _____ Jun.' - Aug.' ; _____ Sep.' - Nov.' ;
 Type of vapor control equipment:
 Control efficiency _____ percent
 How was this efficiency determined _____
 Estimated annual VOC emissions _____ tons/year after controls
 How were these emissions determined _____

POLLUTION CONTROL AGENCY: DIVISION OF AIR QUALITY
PETROLEUM PRODUCT TRANSFER STATIONS

COMPLETE THE APPROPRIATE SECTION FOR EACH TRANSFER STATION WITHIN YOUR FACILITY.
PHOTOCOPY ADDITIONAL PAGES IF NECESSARY.

A. Tank truck/car transfer station ID _____

1. Loading:

.Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year

.Method of loading (submerged or splash) _____

.Type of product _____

.Quantity/year transferred _____ 1000 gallons

.Vapor control equipment:
Control efficiency ____ percent
How was this efficiency determined _____
Estimated annual VOC emissions ____ tons/year
How were these emissions determined _____

B. Barge/ship transfer station ID _____

1. Loading:

.Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year

.Type of product _____

.Quantity/year transferred _____ 1000 gallons

.Vapor control equipment:
Control efficiency ____ percent
How was this efficiency determined _____
Estimated annual VOC emissions ____ tons/year
How were these emissions determined _____

2. Ballasting:

.Average actual working schedule:
____ hours/day; ____ days/week; ____ weeks/year

.Type of product _____

.Quantity/year transferred _____ 1000 gallons
(total cargo capacity)

.Vapor control equipment:
Control efficiency ____ percent
How was this efficiency determined _____
Estimated annual VOC emissions ____ tons/year
How were these emissions determined _____

PQ-00254-06

APPENDIX H

EXAMPLE PRELIMINARY AND FOLLOW-UP QUESTIONNAIRES

The following sample preliminary and follow-up questionnaires are examples only and are provided as a resource of information. They are not to be reused and are not endorsed or recommended for use, nor do they represent flawless examples. Each agency should tailor questionnaires to the specific needs of the area.

EXAMPLE 1 - PART I AND PART II OF AN INVENTORY QUESTIONNAIRE

Potentially Toxic Chemicals (as identified by the U.S. EPA)
(*) chemical under study by

	We purchase this chemical	We package this chemical	We manufacture this chemical	This chemical may be an intermediate	This chemical may be present in our incinerator
Acetaldehyde	[]	[]	[]	[]	[]
Acrolein	[]	[]	[]	[]	[]
Acrylonitrile	[]	[]	[]	[]	[]
Allyl Chloride	[]	[]	[]	[]	[]
Arsenic (*)	[]	[]	[]	[]	[]
Asbestos	[]	[]	[]	[]	[]
Benzene (*)	[]	[]	[]	[]	[]
Benzyl Chloride	[]	[]	[]	[]	[]
Beryllium	[]	[]	[]	[]	[]
Cadmium	[]	[]	[]	[]	[]
Carbon Tetrachloride	[]	[]	[]	[]	[]
Chlorobenzene	[]	[]	[]	[]	[]
Chlorofluorocarbon (FC-113)	[]	[]	[]	[]	[]
Chloroform	[]	[]	[]	[]	[]
Chloroprene	[]	[]	[]	[]	[]
Chromium	[]	[]	[]	[]	[]
Coke	[]	[]	[]	[]	[]
o-, m-, p-Cresol	[]	[]	[]	[]	[]
Dichloromethane	[]	[]	[]	[]	[]
p-Dichlorobenzene	[]	[]	[]	[]	[]
Dialkyl Nitrosamines (*)	[]	[]	[]	[]	[]
Dimethyl Nitrosamine	[]	[]	[]	[]	[]
1,4-Dioxane	[]	[]	[]	[]	[]
Dioxin	[]	[]	[]	[]	[]
Epichlorohydrin	[]	[]	[]	[]	[]
Ethylene Dibromide (*)	[]	[]	[]	[]	[]
Ethylene Dichloride	[]	[]	[]	[]	[]
Ethylene Oxide	[]	[]	[]	[]	[]
Formaldehyde	[]	[]	[]	[]	[]
Hexachlorocyclopentadiene	[]	[]	[]	[]	[]

Plant Name
Address
City

Attn:

RE: Plant #

Gentlemen:

Thank you for responding to Part I of our chemical usage survey. In Part I of the survey, you indicated that you used certain substances at your facility. The purpose of Part II is to quantify this usage. This survey is authorized by the State Health and Safety Code Part 2 of Division 26, Chapter 3.5 (

Please review the attached form. The values in the column "Quantity Purchased" are based on permit applications and annual updates submitted by you to the District.

1. Circle all correct values. Replace all out-of-date, incorrect or blank values with the correct quantity for Calendar Year 1983. Values should be correct to within 100 lb/yr, or 10%, whichever is larger.
2. If you obtain a substance as a component of a mixture, indicate the annual quantity of the mixture obtained, as well as the percent of the substance contained in the mixture.
3. If the substance is contained in products, please indicate the quantity and concentration of the substance in your products.
4. Please indicate the concentration and quantities of each substance incinerated.

This survey should be returned by . Your information, except for trade secrets, may be released for public inspection. If you consider any information to be a trade secret, label it clearly as "Trade Secret".

If you have any questions or comments, please call at

Very truly yours,

by:

AIR QUALITY MANAGEMENT DISTRICT
Special Substance Survey--Part II

Please circle units used (L = lbs, G = gallons)
Please indicate annual figures for accuracy should be within 10%.
Quantities < 100 lb/yr may be reported as "< 100 lb/yr".

Substance	Quantity Purchased in 1983	Quantity-Purchased as a Component of a Mixture Qty mixture & substance purchased in mixture	Quantity Incorporated Into Product Qty mixture & substance produced in mixture	L/G

INCINERATION

You have indicated that these substances may be present in your incinerator. Please indicate the maximum incinerator feed concentration of each of these substances. Please also indicate which combustion devices are used to incinerate these substances.

Please circle units used

Substance	Quantity Incinerated in 1983	Maximum Concentration	Abatement device(s)

L/G wt% / vol% / ppm

NOTE:

The computer listed those substances which the facility indicated it used.
District staff put down quantities where we had permit-related records available.

EXAMPLE 2 - A QUALITATIVE AND QUANTITATIVE QUESTIONNAIRE

Return Date:
Mar. 28, 1986

Chemical
Abstract
Service
Number
(CAS)* Name

Annual Values (Year 19__)

	Used*		Emissions	
	Amount	Units	Amount	Units
75-07-0 Acetaldehyde				
107-13-1 Acrylonitrile				
71-43-2 Benzene				
56-23-5 Carbon Tetrachloride				
67-66-3 Chloroform				
1319-77-3 Cresols				
95-50-1 o-Dichlorobenzene				
123-91-1 Dioxane				
106-89-8 Epichlorohydrin				
106-93-4 Ethylene Dibromide				
107-06-2 Ethylene Dichloride				
75-21-6 Ethylene Oxide				
50-00-0 Formaldehyde				
77-47-4 Hexachlorocyclopentadiene				
71-55-6 Methyl Chloroform				
75-09-2 Methylene Chloride				
1335-36-3 PCB's				
127-18-4 Perchloroethylene				
108-95-2 Phenols				
75-56-9 Propylene Oxide				
110-36-1 Pyridine				
100-42-5 Styrene				
108-88-3 Toluene				
79-01-6 Trichloroethylene				
76-13-1 1,1,2-Trichloro-1,2,2-trifluoroethane				
79-00-5 1,1,2-Trichloroethane				
75-35-4 Vinylidene Chloride				
1330-20-7 Xylenes				

____ I certify that the information given above is correct.
____ I certify that none of the above are used* (see cover letter).

Signature

Official Title

Date

Phone

Mr. NAME
COMPANY
ADDRESS
CITY, IN 46060

Dear Mr. (NAME)

The Office of Air Management (OAM) is continuing to conduct a survey initiated in 1986 to help determine whether the impact from certain air toxic emissions is sufficient to cause a health risk. The information obtained from your company has been used to initially estimate the impacts on the air quality and now additional data is needed.

According to our records, _____ is routinely emitted into the atmosphere from your facility. We have reviewed the data in our files and find we need additional information in order to help us estimate the potential impact from this compound. Please complete the enclosed form and return it to the OAM within thirty days. Please include a plot plan showing all building locations, all points of emissions, stack heights, plant fence and property lines and location and distance to the nearest residences.

13-1-1-4(B) (3) permits the State to request this type of information. Confidential data will be handled in accordance with established legal procedures (320 IAC 6-1-1).

Please return questionnaire to:

If you have any questions or problems in completing the questionnaire, please contact the person at either the address or telephone number above. Your cooperation is appreciated.

Sincerely,

INSTRUCTIONS For QUESTIONNAIRE

1. Company name and address.
2. National Emissions Data System (NEDS) identification number.
3. Chemical or compound name and Chemical Abstract Number (CAS).
4. Designate year of emissions data, which should be the most recent available.
5. Process Description - Submit a separate response for all the emissions from each point and fugitive source or sources that pertain to this process that apply to questions 9 through 21. Include manufacturer and any applicable number. Use question 21 to quantify and describe emissions not covered in questions 9 through 20. Show and identify each source on the plot plan
6. Operating schedule for process in which compound is used.
7. Estimate the amount of compound handled, used, processed or produced in Lbs/Hour and Tons/Year.
8. Submit a legible plot plan which shows all emission sources, building height and dimensions, all other buildings with their heights and dimensions, plant fence and property lines, distances and location of nearest residences, a scale and an arrow showing north.
- 9-11. Indicate building height, width and length where emission source is located (Include all other buildings with dimension information on the plot plan.)
- 12-15. Stack or exhaust vent parameters. Stack height - total distance from ground to top of stack. If emissions are exhausted through a roof vent then complete: vent height, diameter or dimensions if not round, temperature (room) and indicate exit volume. Please describe how stack velocity or temperature varies with operation rate.
16. Estimate actual emissions in Tons/Year and Lbs/Hour.
17. Basis of emission estimate: test data, emission factors, material balance, etc.
18. Do not list the efficiency of the control device unless it is effective for the listed compound.
19. List the device or methods employed to reduce emissions of the compound if applicable.
20. Fugitive* emissions occur from pumps, compressors, pressure relief devices, sampling connection systems, open ended valves or lines, valves, flanges and other connectors, product accumulator vessels, control devices or systems outside the building. Please list number of each.
21. Quantify and describe any other emissions.

* Fugitive sources, as in 20, may be listed on one data sheet if they are together.

TOXIC COMPOUND QUESTIONNAIRE

GENERAL INFORMATION

1. COMPANY NAME AND ADDRESS: 2. NEDS ID: 3. NAME OF COMPOUND and CAS#:

4. YEAR FOR EMISSIONS DATA _____

5. PROCESS DESCRIPTION:

6. OPERATING SCHEDULE _____ Hours/Day _____ Days/Week _____ Weeks/Year

7. AMOUNT HANDLED _____ Lbs/Hour _____ Tons/Year
PROCESSED, PRODUCED
OR GENERATED

8. IDENTIFY AND LOCATE ALL SOURCES OF EMISSIONS ON A PLOT PLAN SHOWING THE BUILDING HEIGHT AND DIMENSIONS, PLANT FENCE AND PROPERTY LINES, DISTANCE AND LOCATION OF NEAREST RESIDENCES, A SCALE AND ARROW SHOWING NORTH.

NAME (PRINT OR TYPE)

OFFICIAL TITLE

DATE

PHONE

SIGNATURE _____

SOURCE EMISSION DATA

PROVIDE SEPARATE RESPONSE FOR ITEMS 9 THROUGH 21
FOR EACH POINT AND/OR FUGITIVE SOURCE(S)

SOURCE NUMBER OR NAME (SHOW LOCATION ON PLOT PLAN)

9. BUILDING HEIGHT _____ Feet 10. BUILDING LENGTH _____ Feet
11. BUILDING WIDTH _____ Feet
12. STACK HEIGHT _____ Feet 13. INSIDE STACK DIA. _____ Feet
(Above ground)
14. EXIT GAS VELOCITY _____ Feet/Minute 15. EXIT GAS TEMP. _____ °F
16. ACTUAL EMISSIONS _____ Tons/Year _____ Lbs/Hour
17. BASIS FOR EMISSION ESTIMATE:
18. CONTROL EFFICIENCY _____ Design % _____ Actual %
19. POINT OR FUGITIVE EMISSION CONTROL METHOD OR DEVICE:
20. FUGITIVE EMISSIONS;
NUMBER OF COMPRESSORS _____, PRESSURE RELIEF DEVICES _____, SAMPLING
CONNECTION SYSTEMS _____, OPEN-ENDED VALVES OR LINES _____, VALVE, FLANGES AND
OTHER CONNECTORS _____, PRODUCT ACCUMULATOR VESSELS _____,
CONTROL DEVICES OR SYSTEMS _____, OTHERS (PLEASE DESCRIBE) _____.
21. QUANTIFY AND DESCRIBE OTHER EMISSIONS NOT COVERED ABOVE:

EXAMPLE 3 - A PRELIMINARY AND FOLLOW-UP QUESTIONNAIRE

Dear Sir:

The Department of Environmental Resources is developing an Air Toxics Inventory. As a preliminary step in the development of the inventory, we are conducting a survey to determine the presence and use of selected substances in . . . Your assistance in this matter is required under Section 4 of the Air Pollution Control Act, P.L. 2119, §5 (35 P.S. §4004).

A survey form, instructions and a list of substances are attached to this letter. Please complete the form as indicated, using one block for each listed substance or group of compounds. If you do not use, store or produce any of the listed substances, please enter "NONE" in the first block and return the form.

If you have submitted similar information to another governmental agency, you may substitute a copy of that submittal for the completed Air Toxics Survey Form.

Your response by - - - , will be appreciated. If you have any questions concerning this matter or need assistance completing the forms, please contact . . . at the address or telephone number above.

Sincerely,

Enclosures

Instructions for completing the Air Toxics Survey form.

Section I.

Make corrections to the pre-printed address label on page 1 of the form by lining out incorrect information and inserting corrections in the blank space to the right of the label.

Enter the SIC code for your facility in the space indicated.

Section II. Complete one block for each compound or group of compounds from the attached list which you have or use.

Line 1.

CAS Number: Enter the registration number assigned to the compound by the Chemical Abstract Service. This number will be used to identify those compounds present at your facility.

Name: Enter the name of the compound as indicated on the attached list or an acceptable synonym. Do not use trade names or brand names.

Line 2.

Mark the appropriate block(s) to indicate whether the compound is used in a process or operation, stored (other than stock maintained to make up losses), manufactured or produced, occurs as a by-product of a process or operation, or is a component of a material used or produced at your facility.

Line 3.

Identify how the substance is or may be emitted into the atmosphere by marking out the items which do not apply. "Stack" includes any vent, duct or pipe through which the substance may be emitted to the atmosphere.

Line 4.

Describe the type of equipment used to control or reduce emissions of the specified substance. If there is no control, enter "NONE." Enter the percent efficiency of the control equipment for the specified substance.

Line 5.

Enter the maximum rate in pounds per hour at which the specified substance could be emitted from this source if there were no emission controls.

Line 6.

Indicate the normal operating schedule of this source by marking out the items which do not apply.

Line 7.

Enter a description of the equipment, process or operation in which the substance is used, stored or produced. The description should be sufficiently specific that the equipment will be readily identifiable by both plant and Department of Environmental Resources personnel.

Air Toxics Survey Form

Section I.

Page 1 of ____

Corrections:

address label

SIC _____

Section II.

o CAS Number ____-____-____ Name _____

Used ____ Stored ____ Manufactured ____ By-Product ____ Ingredient ____

Emissions: (Fugitive/Stack) (Controlled/Uncontrolled)

Type of control: _____ Efficiency (%) _____

Maximum hourly emission rate in pounds (uncontrolled): _____

Operation: (Continuous/Periodic) (Seasonal/Yearround)

Description: _____

o CAS Number ____-____-____ Name _____

Used ____ Stored ____ Manufactured ____ By-Product ____ Ingredient ____

Emissions: (Fugitive/Stack) (Controlled/Uncontrolled)

Type of control: _____ Efficiency (%) _____

Maximum hourly emission rate in pounds (uncontrolled): _____

Operation: (Continuous/Periodic) (Seasonal/Yearround)

Description: _____

Return to: Bureau of Air Quality Control
Division of Abatement and Compliance

Department of Environmental Resources
Bureau of Air Quality Control

List of Substances for Air Toxics Inventory

CAS No.	Name of compound/class
0079-34-5	1,1,2,2-Tetrachloroethane
0107-06-2	1,2-Dichloroethane(Ethylene Dichloride)
1746-01-8	2,3,7,8-Tetrachlorodibenzo-p-dioxin
0092-67-1	4-Aminobiphenyl
0075-07-0	Acetaldehyde
0107-13-1	Acrylonitrile
0107-05-1	Allyl Chloride
(group)	Arsenic & Compounds
1332-21-4	Asbestos
0071-43-2	Benzene
0050-32-8	Benzof(a)Pyrene(BAP)
(group)	Beryllium & Compounds
0117-81-7	Bis(2-Ethylhexyl)Phthalate
(group)	Cadmium & Compounds
0056-23-5	Carbon Tetrachloride
(group)	Chlorinated benzenes
0067-66-3	Chloroform
(group)	Chromium & Compounds
0075-09-2	Dichloromethane(Methylene Chloride)
0106-89-8	Epichlorohydrin
0100-41-4	Ethyl Benzene
0075-21-8	Ethylene Oxide
0050-00-0	Formaldehyde
(group)	Manganese & Compounds
(group)	Mercury & Compounds
0071-55-6	Methyl Chloroform
0080-62-6	Methyl Methacrylate
(group)	Nickel & Compounds
0098-95-3	Nitrobenzene
0087-86-5	Pentachlorophenol
0127-18-4	Perchloroethylene
0108-95-2	Phenol
0075-58-9	Propylene Oxide
0100-42-5	Styrene
0108-88-3	Toluene
0079-01-6	Trichloroethylene
0075-01-4	Vinyl Chloride
1330-20-7	Xylene

AIR TOXICS INVENTORY

STORAGE

Facility I.D. No. _____ Company Name _____
 PEDS Source No. _____ BAQC Permit No. _____
 CAS # _____ Air Toxics Substance _____

Liquid

Solid

Tank Capacity _____ (Gals) Bin Capacity _____ (Lbs.)

Pressure Relief Valve
 Yes _____ No _____

Quarterly Throughputs (Gals)
 1st 2nd 3rd 4th

Quarterly Throughputs (Lbs.)
 1st 2nd 3rd 4th

% Air Toxics Substance _____ % Air Toxics Substance _____

EMISSION CONTROL EQUIPMENT

Type _____

Efficiency _____ % (Air Toxics Substance Removal)

AIR TOXICS EMISSIONS

Stack Diameter _____ (Ft) Stack Temperature _____ (°F)
 Stack Height Above Grade _____ (Ft) Exhaust Volume _____ (ACFM)
 Potential Emissions (Max) _____ (Lbs/Hr) _____ (Lbs/Yr)
 Actual Emissions _____ (Lbs/Hr) _____ (Lbs/Yr)
 Method of Calculation _____

OPERATION

Facility I.D. No. _____ Company Name _____
 PEDS Source No. _____ BAQC Permit No. _____
 CAS # _____ Air Toxics Substance _____

Description of Process, Combustion Unit, Incinerator, etc. _____

Air Toxics Source Ingredient _____ Fuel _____
 By-Product _____ Waste Disposal _____
 Product _____

Quarterly Throughputs (Units _____)

1st 2nd 3rd 4th

Air Toxics Substance % _____ PPM _____

EMISSION CONTROL EQUIPMENT

Type _____
 Efficiency _____ % (Air Toxics Substance Removal)

Fugitive Emissions Yes _____ No _____

AIR TOXICS EMISSIONS

Exhaust Volume _____ (ACFM)
 Temperature _____ (°F)
 % Moisture _____
 Stack Height Above Grade _____ (Ft)
 Stack Diameter _____ (Ft)

Potential Emissions (Max) _____ (Lbs/Hr) _____ (Lbs/Yr)
 Actual Emissions _____ (Lbs/Hr) _____ (Lbs/Yr)

Method of Calculation _____

AIR TOXICS INVENTORY
OUTDOOR MATERIAL STOCKPILING AND TRANSFER

Facility I.D. No. _____ Company Name _____
PEDS Source No. _____ BAQC Permit No. _____
CAS # _____ Air Toxics Substance _____

Quarterly Throughputs (Units _____)

1st	2nd	3rd	4th
_____	_____	_____	_____

Method of Transfer _____

% Air Toxics Substance _____

EMISSION CONTROL EQUIPMENT OR OTHER CONTROL MEASURES

Type _____

Efficiency _____ %

AIR TOXICS EMISSIONS

Potential Emissions (Max) _____ (Lbs/Hr) _____ (Lbs/Yr)

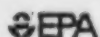
Actual Emissions _____ (Lbs/Hr) _____ (Lbs/Yr)

Method of Calculation _____

APPENDIX I

TOXIC CHEMICAL RELEASE INVENTORY
REPORTING FORM

The following USEPA Form must be completed by applicable sources by July 1, 1988, as required by Section 313 Title III of the Superfund Amendments and Reauthorization Act of 1986. Please note that the format of this form may change in future years.



U.S. Environmental Protection Agency

TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM

EPA FORM

R

Section 313, Title III of The Superfund Amendments and Reauthorization Act of 1986

PART I. FACILITY IDENTIFICATION INFORMATION

(This space for EPA use only.)

1. 1.1 Does this report contain trade secret information?
☐ Yes (Answer 1.2) ☐ No (Do not answer 1.2)
- 1.2 Is this a sanitized copy?
☐ Yes ☐ No
- 1.3 Reporting Year

2. CERTIFICATION (Read and sign after completing all sections.)

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.

Name and official title of owner/operator or senior management official

Signature

Date signed

3. FACILITY IDENTIFICATION

3.1	Facility or Establishment Name		3.2	This report contains information for: (check one) a. ☐ An entire covered facility. b. ☐ Part of a covered facility.
	Street Address			
	City	County		
	State	Zip Code		
3.3	Technical Contact		Telephone Number (include area code) () -	
3.4	Public Contact		Telephone Number (include area code) () -	
3.5	a. SIC Code	b.	c.	Where to send completed forms: U.S. Environmental Protection Agency P.O. Box 70266 Washington, DC 20024-0266 Attn: Toxic Chemical Release Inventory
3.6	Latitude Deg. Min. Sec.		Longitude Deg. Min. Sec.	
3.7	Dun & Bradstreet Number(s) a.		b.	
3.8	EPA Identification Number (RCRA I.D. No.) a.		b.	
3.9	NPDES Permit Number(s) a.		b.	
3.10	Name of Receiving Stream(s) or Water Body(s) a.			
	b.			
	c.			
3.11	Underground Injection Well Code (UIC) Identification No. 			

4. PARENT COMPANY INFORMATION

4.1	Name of Parent Company	
4.2	Parent Company's Dun & Bradstreet No. 	

(This space for EPA use only.)

EPA FORM **R**
PART II. OFF-SITE LOCATIONS TO WHICH TOXIC
CHEMICALS ARE TRANSFERRED IN WASTES

1. PUBLICLY OWNED TREATMENT WORKS (POTW)

Facility Name	
Street Address	
City	County
State	Zip
-	

2. OTHER OFF-SITE LOCATIONS - Number these locations sequentially on this and any additional page of this form you use.

☐ Other off-site location

EPA Identification Number (RCRA ID. No.) | | | | | | | | | | | | | | | |

Facility Name	
Street Address	
City	County
State	Zip
-	

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

☐ Other off-site location

EPA Identification Number (RCRA ID. No.) | | | | | | | | | | | | | | | |

Facility Name	
Street Address	
City	County
State	Zip
-	

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

☐ Other off-site location

EPA Identification Number (RCRA ID. No.) | | | | | | | | | | | | | | | |

Facility Name	
Street Address	
City	County
State	Zip
-	

Is location under control of reporting facility or parent company? ☐ Yes ☐ No

☐ Check if additional pages of Part II are attached.

(This space for EPA use only.)

EPA FORM R

PART III. CHEMICAL SPECIFIC INFORMATION

1. CHEMICAL IDENTITY

- 1.1 ☐ Trade Secret (Provide a generic name in 1.4 below. Attach substantiation form to this submission.)
- 1.2 CAS # - - (Use leading zeros if CAS number does not fill space provided.)
- 1.3 Chemical or Chemical Category Name
- 1.4 Generic Chemical Name (Complete only if 1.1 is checked.)

MIXTURE COMPONENT IDENTITY (Do not complete this section if you have completed Section 1.)

2. Generic Chemical Name Provided by Supplier (Limit the name to a maximum of 70 characters (e.g., numbers, letters, spaces, punctuation)).

3. ACTIVITIES AND USES OF THE CHEMICAL AT THE FACILITY (Check all that apply.)

- 3.1 Manufacture: a. ☐ Produce b. ☐ Import c. ☐ For on-site use/processing
d. ☐ For sale/distribution e. ☐ As a byproduct f. ☐ As an impurity
- 3.2 Process: a. ☐ As a reactant b. ☐ As a formulation component c. ☐ As an article component
d. ☐ Repackaging only
- 3.3 Otherwise Used: a. ☐ As a chemical processing aid b. ☐ As a manufacturing aid c. ☐ Ancillary or other use

4. MAXIMUM AMOUNT OF THE CHEMICAL ON SITE AT ANY TIME DURING THE CALENDAR YEAR

 (enter code)

5. RELEASES OF THE CHEMICAL TO THE ENVIRONMENT

You may report releases of less than 1,000 lbs. by checking ranges under A.1.		A. Total Release (lbs/yr)			B. Basis of Estimate (enter code)	
		A.1 Reporting Ranges				
		0	1-499	500-999		
5.1 Fugitive or non-point air emissions	5.1a				5.1b ☐	
5.2 Stack or point air emissions	5.2a				5.2b ☐	
5.3 Discharges to water (Enter letter code from Part I Section 3.10 for streams(s).)	5.3.1 ☐	5.3.1a			5.3.1b ☐	C. % From Stormwater 5.3.1c
	5.3.2 ☐	5.3.2a			5.3.2b ☐	5.3.2c
	5.3.3 ☐	5.3.3a			5.3.3b ☐	5.3.3c
5.4 Underground Injection	5.4a				5.4b ☐	
5.5 Releases to land	5.5.1 (enter code)	5.5.1a			5.5.1b ☐	
	5.5.2 (enter code)	5.5.2a			5.5.2b ☐	
	5.5.3 (enter code)	5.5.3a			5.5.3b ☐	

☐ (Check if additional information is provided on Part IV-Supplemental Information.)

6. TRANSFERS OF THE CHEMICAL IN WASTE TO OFF-SITE LOCATIONS							
A. Total Transfers (lbs/yr)				B. Basis of Estimate (enter code)	C. Type of Treatment/Disposal (enter code)		
A.1 Reporting Ranges			A.2 Enter Estimate				
You may report transfers of less than 1,000 lbs. by checking ranges under A.1.							
				0	1-499	500-999	
6.1	Discharge to POTW				6.1b	☐	
6.2	Other off-site location (Enter block number from Part II, Section 2.)	☐			6.2b	☐	6.2c
6.3	Other off-site location (Enter block number from Part II, Section 2.)	☐			6.3b	☐	6.3c
6.4	Other off-site location (Enter block number from Part II, Section 2.)	☐			6.4b	☐	6.4c
☐ (Check if additional information is provided on Part IV-Supplemental Information)							

7. WASTE TREATMENT METHODS AND EFFICIENCY										
A. General Wastestream (enter code)	B. Treatment Method (enter code)			C. Range of Influent Concentration (enter code)		D. Sequential Treatment? (check if applicable)		E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes No	
7.1a	☐	7.1b		7.1c	☐	7.1d	☐	7.1e %	7.1f	☐
7.2a	☐	7.2b		7.2c	☐	7.2d	☐	7.2e %	7.2f	☐
7.3a	☐	7.3b		7.3c	☐	7.3d	☐	7.3e %	7.3f	☐
7.4a	☐	7.4b		7.4c	☐	7.4d	☐	7.4e %	7.4f	☐
7.5a	☐	7.5b		7.5c	☐	7.5d	☐	7.5e %	7.5f	☐
7.6a	☐	7.6b		7.6c	☐	7.6d	☐	7.6e %	7.6f	☐
7.7a	☐	7.7b		7.7c	☐	7.7d	☐	7.7e %	7.7f	☐
7.8a	☐	7.8b		7.8c	☐	7.8d	☐	7.8e %	7.8f	☐
7.9a	☐	7.9b		7.9c	☐	7.9d	☐	7.9e %	7.9f	☐
7.10a	☐	7.10b		7.10c	☐	7.10d	☐	7.10e %	7.10f	☐
7.11a	☐	7.11b		7.11c	☐	7.11d	☐	7.11e %	7.11f	☐
7.12a	☐	7.12b		7.12c	☐	7.12d	☐	7.12e %	7.12f	☐
7.13a	☐	7.13b		7.13c	☐	7.13d	☐	7.13e %	7.13f	☐
7.14a	☐	7.14b		7.14c	☐	7.14d	☐	7.14e %	7.14f	☐
☐ (Check if additional information is provided on Part IV-Supplemental Information.)										

8. OPTIONAL INFORMATION ON WASTE MINIMIZATION					
(Indicate actions taken to reduce the amount of the chemical being released from the facility. See the instructions for coded items and an explanation of what information to include.)					
A. Type of modification (enter code)	B. Quantity of the chemical in the wastestream prior to treatment/disposal			C. Index	D. Reason for action (enter code)
	Current reporting year (lbs/yr)	Prior year (lbs/yr)	Or percent change		
			%		

(Important: Type or print; read instructions before completing form.)

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EPA FORM R
PART IV. SUPPLEMENTAL INFORMATION

Use this section if you need additional space for answers to questions in Parts I and III.
Number or letter this information sequentially from prior sections (e.g., D.E, F, or 5.54, 5.55).

(This space for EPA use only.)

ADDITIONAL INFORMATION ON FACILITY IDENTIFICATION (Part I - Section 3)

3.5	SIC Code	
3.7	Dun & Bradstreet Number(s)	
3.8	EPA Identification Number(s) RCRA I.D. No.)	
3.9	NPOES Permit Number(s)	
3.10	Name of Receiving Stream(s) or Water Body(s)	

ADDITIONAL INFORMATION ON RELEASES TO LAND (Part III - Section 5.5)

Releases to Land	A. Total Release (lbs/yr)		B. Basis of Estimate (enter code)
	A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate	
5.5 (enter code)	5.5__a		5.5__b
5.5 (enter code)	5.5__a		5.5__b
5.5 (enter code)	5.5__a		5.5__b

ADDITIONAL INFORMATION ON OFF-SITE TRANSFER (Part III - Section 6)

	A.Total Transfers (lbs/yr)		B. Basis of Estimate (enter code)	C. Type of Treatment/ Disposal (enter code)
	A.1 Reporting Ranges 0 1-499 500-999	A.2 Enter Estimate		
6. Discharge to POTW	6.__a		6.__b	
6. Other off-site location (Enter block number from Part II, Section 2.) ☐	6.__a		6.__b	6.__c.
6. Other off-site location (Enter block number from Part II, Section 2.) ☐	6.__a		6.__b	6.__c.

ADDITIONAL INFORMATION ON WASTE TREATMENT (Part III - Section 7)

A. General Wastestream (enter code)	B. Treatment Method (enter code)	C. Range of Influent Concentration (enter code)	D. Sequential Treatment? (check if applicable)	E. Treatment Efficiency Estimate	F. Based on Operating Data? Yes No
7.__a	7.__b	7.__c	7.__d	7.__e %	7.__f
7.__a	7.__b	7.__c	7.__d	7.__e %	7.__f
7.__a	7.__b	7.__c	7.__d	7.__e %	7.__f
7.__a	7.__b	7.__c	7.__d	7.__e %	7.__f
7.__a	7.__b	7.__c	7.__d	7.__e %	7.__f